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ABSTRACT

The Bureau of Labor Statistics was awarded a contract to develop information that would present a comprehensive view of library manpower demand and supply through the mid-1980's. The study developed projections of employment requirements by employment setting--school, public, academic, and special library--and provided information on job functions and educational requirements. The study entailed two major collection phases: a detailed search of existing literature for statistics and other related information, and personal interviews. Among the conclusions of the study were that employment in school libraries is expected to grow slowly, with most of the growth occurring after 1980, with the reverse being true for the academic librarian for whom it is expected that employment growth will come to a virtual halt after 1980; and that in contrast to the anticipated tight job market for beginning librarians, demand is expected to remain strong for black and other minority librarians, community outreach libarians, media/audiovisual specialist, library automation specialists, and experienced library administrators and supervisory librarians. An interview guide, a list of staff position descriptions, and a selected bibliography are included. (Author/KKC)

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Library Manpower: A Study of Demand and Supply

Bulletin 1852

U.S. Department of Labor
Peter J. Brennan, Secretary

Bureau of Labor Statistics
Julius Shiskin, Commissioner

1975

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Preface

This bulletin presents the results of a study of library manpower demand and supply conducted by the Bureau of Labor Statistics for the U.S. Office of Education. The primary objectives of the study are the identification and analysis of factors which influence manpower needs, and the development of projections of demand for library personnel.

The bulletin was prepared in the Bureau's Division of Manpower and Occupational Outlook by Anne S. Kahl and Mary I. DeLaVergne under the supervision of Michael J. Pilot.

Grateful acknowledgement is made to staff members of the Office of Education for their interest and support. Dr. Frank L. Schick of the National Center for Educational Statistics was largely responsible for initiating the study, and provided constructive advice during every phase of the research. Assistance from the Division of Library Programs was provided by Henry T. Drennan.

The Bureau also acknowledges the cooperation of many people in the library community. Comments on the study were received from representatives of the American Library Association, Special Libraries Association, and Council on Library Technology; and from consultants, educators, administrators, and practicing librarians. Special gratitude goes to the librarians who gave so generously and helpfully of their time during the interview phase of the study.

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Introduction

Background

Manpower problems have been a major concern of the library profession since the early 1960's. The existence of a library manpower shortage drew national attention when, in 1967, the American Library Association announced that the scarcity of professional librarians had reached crisis proportions. For the next few years, the profession sought to ameliorate the situation by actively recruiting persons for careers in librarianship, lobbying for increased aid for library education, and encouraging job redesign. These efforts were largely successful. By 1970, however, the situation had changed completely. The need for ever-growing numbers of library personnel began to wane because of government austerity budgets and declining school enrollments. In short order, libraries were swamped by job applicants, and new library school graduates were having difficulty finding jobs. This abrupt shift in conditions of demand and supply has serious implications for library education programs, for officials concerned with student and university financial support, and for individuals considering a career in librarianship. The situation gave rise to wide-spread apprehension within the library community as to the prospective employment outlook.

Study objectives

Additional research was needed in order to identify the place of library personnel within the spectrum of prospective supply-demand conditions for professional and related manpower. While studies conducted by the Bureau of Labor Statistics in the late 1960's pointed to an overall balance between supply and demand for college graduates by the end of the 1970's, individual occupations were expected to experience situations varying from excess demand to excess supply.

The Bureau of Labor Statistics as part of its occupational outlook program had developed projections of manpower requirements for professional librarians. However, these needs had not been broken down by employment setting, namely: School, public, academic, and special libraries. Data also were lacking on the functions of individuals employed in libraries in both professional and nonprofessional categories.

The Bureau of Labor Statistics was awarded a contract to develop information that would help fill existing data gaps and present a comprehensive view of library manpower through the mid-1980's. The award followed discussions in early 1972 between the staffs of the BLS and the U.S. Office of Education's National Center for Educational Statistics and Division of Library Programs. The study was designed to develop projections of employment requirements by employment setting and occupational level, and to provide information on job functions and educational requirements—and how each is changing.

Methods

The study entailed two major collection phases. Phase 1 consisted of a detailed search of existing literature for statistics and other relevant information. All available U.S. Office of Education data were provided to the BLS. Library periodicals and related publications were examined. A literature search by the ERIC-Clearinghouse on Library and Information Sciences provided useful information on recently published studies dealing with various aspects of library manpower under study by the BLS. Representatives of the American Library Association and others knowledgeable in the field were consulted for advice and assistance as well as for leads to ongoing studies.

Valuable information also was obtained through participation, attendance, and discussion at annual and mid-winter American Library Association meetings and annual conferences of the Council on Library Technology. Phase 2 was the personal interview stage. About 100 personal visits were conducted from February through May 1973 with head librarians, library administrators, personnel officers, and other employer representatives to obtain information on staffing patterns, job functions, education and training needs, and manpower problems in the library field. Information also was sought to identify the factors that have the greatest bearing on library manpower requirements. Appendix B

presents a brief description of the procedures used in selecting the sample. An interview guide was developed to ensure that the information collected by the interviewers was obtained and recorded in a consistent manner. A copy of the interview guide is included in this report as appendix D. Appendix C presents a list of job descriptions developed for use in conjunction with the interview guide.

The figures for 1970 employment presented in this bulletin are BLS estimates based on current and historical data available from the U.S. Office of Education, U.S. Bureau of the Census, BLS, and other sources. Detailed information on sources of data, an explanation of the reason certain sources were considered preferable to others, and a description of the procedures used in developing the estimates are presented in appendix A. Projections of manpower requirements were developed within the framework of the BLS model of the economy in 1985.

Assumptions underlying the BLS model and a description of the projection methods also are presented in appendix A.

Techniques established in other BLS studies were used to estimate replacement needs resulting from deaths and retirements.

The analysis of supply of librarians was based on National Center for Educational Statistics (NCES) estimates and projections of earned degrees in library science. Estimates of the proportion of new graduates entering the field were developed largely on the basis of various followup studies and surveys that provide information on past patterns of labor force entry of college graduates (including teachers and school librarians). A general paucity of data prevented development of projections of supply for library attendants and assistants.

Unless otherwise noted, all tables and charts presented in the report reflect BLS estimates.

Highlights

Employment in libraries is expected to grow more slowly over the 1970–85 period than it did during the decade of the 1960's. The total number of persons in library occupations is projected to rise to 374,000 in 1985 from about 235,000 in 1970. In line with recent trends, employment of library attendants and assistants is expected to rise more sharply than that of librarians, as nonprofessional staff members are assigned increasing responsibility for routine library work. Between 1970 and 1985, total librarian employment is projected to rise to 162,000 from 115,000, or 41 percent; employment of attendants and assistants is expected to increase to 212,000 from 120,000, or 77 percent. Compared to the rapid expansion which took place in the 1960's–much of it stimulated by unprecedented levels of Federal support for library services–employment growth over the projected period is expected to be much slower. Furthermore, growth is expected to be slowest during the 1970's, with much of the overall 1970–85 increase occurring after 1980.

Employment of school librarians is projected to grow to nearly 80,000 by 1985, from 52,000 in 1970. Much of this growth will not occur until the 1980's, when school enrollments are projected to turn sharply upward.

Employment of public librarians is projected to rise to 33,000 by 1985 from 26,500 in 1970. Contributing to the relatively slow growth of librarian employment in public libraries is the increasing use of paraprofessional personnel.

Employment of academic librarians is projected to rise to 27,000 in 1985 from 19,000 in 1970. Most of this growth will occur during the 1970's. Employment growth in academic libraries is expected to come to a virtual halt after 1980 because of the anticipated drop in college-level enrollments beginning in the late 1970's.

Employment of special librarians is projected to rise from 17,000 to 22,500 between 1970 and 1985. The demand for special librarians reflects the changing occupational patterns in those industries employing special librarians.

The main source of demand for librarians through 1985 will be replacement requirements. The number of librarians needed to replace those who retire, die, or leave the labor force for other reasons will greatly exceed the number required to fill newly added positions. Over the entire 1970–85 period, replacement needs are expected to account for three quarters of the job openings for librarians–compared to less than half the openings in the 1960's.

To meet projected requirements for growth and for replacement, job openings for librarians are expected to average 11,200 a year between 1970 and 1985. Based on past patterns of entry into the profession by new bachelor's and master's library science degree recipients, an estimated 9,000 new graduates are likely to enter the labor force as librarians every year from 1970 to 1985. This means that the number of jobs open to persons other than new graduates is likely to be sharply curtailed. Only 2,200 jobs a year are expected to be available to persons seeking reentry, delayed entry, or transfer to the occupation. While in the 1960–70 period, new graduates filled about 40 percent of all openings, they will be available to fill 80 percent of openings created by growth and replacement needs in the 1970–85 period. The employment situation for persons other than new graduates is likely to deteriorate accordingly.

Educational requirements for beginning librarians have been upgraded substantially in the past 5 to 10 years. Data from the survey show that the master's degree in librarianship is required for employment in virtually all academic libraries. Large public libraries generally require the master's degree, and many special libraries do so as well. Few school libraries formally require the master's degree in librarianship, but in practice, school administrators may give preference to candidates with the library science master's. As a result, job prospects in the 1970's and 1980's for entering librarians without the graduate degree in librarianship appear to be limited. Such openings probably will be found, for the most part, in small libraries where the salary level is too low to attract fully trained personnel.

Since 1970, the job market for librarians has been tight. For the jobseeker, the current situation contrasts unfavorably with that 5 to 10 years ago. Respondents to this survey were almost unanimous in describing the transition from a shortage of library manpower in the middle and late 1960's to an "abundance" or "over-

Beginning librarians are easiest to find, according to the libraries surveyed. Librarians with highly specialized training, and those with appropriate experience, are harder to find. In contrast to the anticipated tight job market for beginning librarians throughout the 1970–85 and other minority librarians, community outreach librarians, media/audiovisual specialists, and library automation specialists. Experienced library administrators and supervisory librarians are also expected to continue in strong demand.

Chapter 1. Current Manpower Situation

Employment trends

An estimated 235,000 persons[1] were employed in library occupations in 1970, more than twice as many as in 1960. The 1970 figure includes 115,000 librarians and 120,000 library attendants and assistants. (See table 1.) The latter category is made up of persons employed in a variety of library-related occupations at the nonprofessional level.

School librarians. Nearly half of all librarians in the United States were employed in school libraries in 1970 as shown in the following tabulation:

	Percent distribution	
Type of library	Librarians	Library attendants and assistants
Public	23	38
School	45	16
Academic	17	33
Special	15	13

The dominance of elementary and secondary schools in total library employment has important manpower implications, because the educational preparation of school librarians, the State certification requirements which most of them must meet, and their day-to-day job duties differ in significant respects from those of other librarians.

According to BLS estimates, more than 90 percent of school librarians employed in 1970 worked in 17,500 public school systems; the remainder were employed by nonpublic schools, which numbered about 18,000 in 1970.[2] School librarians generally work in libraries in the school building. However, some perform central services at system or district headquarters, or work as school library supervisors at the district or State levels.

In secondary schools, public and nonpublic, school library services were virtually universal by the early 1970's. At the elementary level, however, library programs tended to be more limited in scope, and less adequately staffed. Few small elementary schools can support the full-time services of a professionally trained librarian. Indeed, most of the 6,000 small school systems surveyed by the Office of Education in 1970[3] employed no librarians at all. In small public systems and in many nonpublic elementary schools, the library staff, if there is any at all, generally consists of a part-time teacher-librarian assisted by student or parent volunteers. At the opposite end of the spectrum are the large city and county public school systems. In fall 1970, the Nation's 192 largest public school systems—each with an enrollment of at least 25,000 students—employed more than one-fourth of all public school librarians. Twenty-six of these school systems employed more than 100 full-time equivalent librarians each.[4] School systems employing the largest number of librarians in 1970 were Chicago, New York City, and Dade County, Fla.

School libraries grew rapidly during the 1960's. Employment of librarians rose to 52,000 from 30,900 between 1960 and 1970, an average annual rate of increase of 5.3 percent. Very little of this growth was associated with rising enrollments, since the increase in enrollments tapered off throughout the decade, and by 1970, had stopped altogether.

The main reason for the rapid growth of school libraries during the 1960's was heightened public con-

[1] Full-time and part-time personnel. The methods used to derive these estimates, as well as information on coverage, definitions, and data sources, are presented in appendix A.

[2] In fall 1970, there were 17,498 operating public school systems with a total enrollment of over 45 million pupils attending approximately 64,000 elementary schools, 24,000 secondary schools, and 2,000 combined elementary-secondary schools. In addition, over 5 million pupils were enrolled in 14,400 nonpublic elementary schools and 3,800 nonpublic secondary schools. See *Education Directory, 1970, Public School Systems* (Office of Education, 1971), p. 6 and *Digest of Educational Statistics*, 1972 edition (Office of Education, 1973), p. 12.

[3] The results for 1970 of the annual sample survey of all public school systems in the United States appear in *Statistics of Local Public School Systems, Fall 1970, Staff* (Office of Education, 1973, OE 73-11415). The publication shows the number of librarians, library aides and audiovisual staff members employed in public school systems according to enrollment size category. The smallest category comprises approximately 6,000 systems enrolling fewer than 300 pupils each.

[4] These figures do not include the schools' separately reported audiovisual staff, a total of 2,705 persons in 1970.

Table 1. Estimated employment of librarians and library attendants and assistants by type of library, 1960 and 1970

Type of library	1960			1970			1960-70 average annual rate of growth[1]		
	Total	Librarians	Library attendants and assistants	Total	Librarians	Library attendants and assistants	Total	Librarians	Library attendants and assistants
Total, all libraries ..	106,000	69,000	37,000	235,000	115,000	120,000	8.3	5.2	12.5
School	([2])	30,900	([2])	71,000	52,000	19,000	([2])	5.3	([2])
Public	([2])	17,700	([2])	71,500	26,500	45,000	([2])	4.1	([2])
Academic	([2])	10,400	([2])	59,500	19,500	40,000	([2])	6.5	([2])
Special	([2])	10,000	([2])	33,000	17,000	16,000	([2])	5.5	([2])

[1] Compounded.
[2] Not available.

cern and support for quality education for all children. This led directly to the Elementary and Secondary Education Act (ESEA) of 1965 and other legislation under which the Federal Government, for the first time, expended large amounts of money in support of elementary and secondary education, specifically including school libraries. Between 1966 and 1973, nearly $617 million in ESEA Title II funds had been made available for the purchase of printed and audiovisual school library materials. Availability of ESEA funds has led to an increase in the number of school libraries and to a significant improvement in school library collections and services.

Public librarians. In 1970, nearly 1 out of every 4 librarians, or 26,500, worked in a public library.

There is great diversity in the 8,800 public libraries serving towns, cities, and larger political units.[5] They differ in the size and character of the areas they serve; the social, economic, and racial composition of the populations they serve; the type and scope of the programs they offer; and the size, duties, and professional preparation of their staffs. The 1,700 or so large public libraries serve areas of 25,000 inhabitants or more each and employ about 75 percent of all public librarians. The remainder of the librarians are employed in about 7,100 small libraries serving villages and rural areas.[6]

Results of the National Center for Educational Statistics' 1968 survey of public libraries serving areas with 25,000 inhabitants or more show the great concentration of public libraries in a small number of areas.[7] Fewer than 100 libraries employed over half the entire staff reported by the libraries covered by the survey. The largest public libraries, in terms of 1968 staff size, were those serving major metropolitan areas: The New York Public Library, Brooklyn Public Library, Queens Borough Public Library, Chicago Public Library, Free Library of Philadelphia, Los Angeles Public Library, and Los Angeles County Public Library.

Employment growth also was rapid in public libraries in the 1960's. Employment of librarians increased to 26,500 from 17,700 between 1960 and 1970—an average annual rate of 4.1 percent.

Academic librarians. An estimated 19,500 librarians, or 1 out of every 6, were employed in the Nation's 2,500 college and university libraries in 1970. Fall 1971 survey data for several categories of academic library personnel are shown in appendix table 1. According to the 1971 survey, nearly 45 percent of all academic librarians worked in universities, 42 percent worked in 4-year colleges, and 13 percent worked in 2-year institutions—primarily community colleges and junior colleges.[8] Public institutions employed 3 out of every 5 academic librarians, and the proportion is rising. Colleges and universities enrolling 10,000 students

[5] In preparation for a survey to be conducted in 1975, the Office of Education has identified a public library universe of 8,769 libraries. Of these, 1,664 libraries serve 25,000 inhabitants or more each, and 7,105 serve less than 25,000.

[6] In 1962, the most recent year for which such data are available, nearly 77 percent of all public library staff members (nonprofessional and maintenance staff, as well as professional librarians) were employed in libraries which served areas of 25,000 inhabitants or more. The remainder were employed in libraries serving 25,000 inhabitants or less.

[7] The survey results appear in *Statistics of Public Libraries Serving Areas with at least 25,000 Inhabitants, 1968* (Office of Education, 1970, OE-15068-68). The publication presents data on "library staff" and "maintenance staff" employed in each of 1,059 reporting libraries, as well as aggregated data distributed by population size class. This survey is conducted every 3 years; results for 1971 are scheduled for publication in 1975.

[8] *Library Statistics of Colleges and Universities, Fall 1971 Analytic Report (Part C)* (Office of Education, 1973, OE-74-11417).

or more employed nearly half of the academic librarians in 1971; the remainder were in smaller institutions, as shown in the following tabulation:

Enrollment size of institution	Percent distribution of librarians
All colleges and universities	100.0
10,000 students or more	47.8
5,000-9,999 students	17.9
1,000-4,999 students	23.4
500-999 students	6.6
Fewer than 500 students	4.3

Over 200 academic libraries in the United States had a professional staff of at least 20 persons each and 22 libraries employed at least 100 professionals each.[9] Most academic libraries were much smaller, however. Six out of 10 libraries employed fewer than five professional staff members each in 1971. The percent distribution of all 2,535 academic libraries by number of professional staff members is show below:

Size of full-time equivalent professional staff	Percent of libraries
100 or more	0.9
50 to 99.9	2.0
20 to 49.9	5.3
10 to 19.9	9.5
5 to 9.9	21.5
3 to 4.9	25.4
2 to 2.9	17.6
1 to 1.9	16.6
Less than 1	1.2

The mean number of full-time equivalent professional staff members in 1971 was 8.6.

Although libraries of every type experienced substantial employment growth during the 1960's, academic libraries grew the most rapidly. (See table 1.) The number of academic librarians almost doubled, rising to 19,500 from 10,400 between 1960 and 1970, an average annual rate of increase of 6.5 percent. This growth reflects the extraordinary rise in college-level enrollments during the 1960's, the post-Sputnik commitment to strengthen the Nation's research and development capability, and the massive infusion of Federal funds in support of higher education. Table 2 illustrates the upward trends, during the 1960's, in college-level enrollments, instructional staff, and library staff.

Employment of academic librarians increased much more rapidly in publicly controlled institutions than in private ones during the 1960's. (See chart 1.) Indeed, 1971 survey data show a slight decline in the number of librarians in private colleges and universities.[10] The relative importance, in terms of employment, of public colleges and universities has increased accordingly. Public institutions employed over 62 percent of all academic librarians in 1971, compared to 52 percent 10 years before.

Special librarians. An estimated 17,000 special librarians were employed in the United States in 1970. The field of special librarianship is in fact many disparate fields, linked by a distinctive emphasis on subject matter and on service to the user. Special librarians are employed throughout the economy, as shown in table 3.[11]

Chiefly because of definitional and conceptual differences, the data in table 3 are not comparable with estimates of special librarian employment based on several recent surveys.[12] Medical librarianship and law librarianship rank among the most important specialties within the field of special librarianship, and the Federal Government is a principal employer of special librarians. In addition, many special librarians are employed in company or corporation libraries in engineering, science and technology, business, the social sciences, or publishing. Others work for foundations, associations, and organizations which have special collections in history, literature, or the arts.

Employment of special librarians rose to approximately 17,000 from 10,000 between 1960 and 1970, an average annual rate of increase of 5.5 percent. The number of special libraries grew to about 13,000 in 1968 from about 8,500 in 1963.[13] Special libraries appear to be more sensitive than others to fluctuations in economic conditions. BLS survey results show that some special

[9] "Professional staff," as used in the National Center for Educational Statistics' academic library surveys, comprises 1) librarians, and 2) other staff members whose work requires completion of a bachelor's degree. In 1971, librarians constituted nearly 86 percent of all professional staff members employed in academic libraries.

[10] *Library Statistics of Colleges and Universities, Fall 1969 Analytic Report* (Office of Education, 1971, DHEW 72-74), p. 17, and *Library Statistics of Colleges and Universities, Fall 1971 Analytic Report (Part C)* (Office of Education, 1973, OE-74-11417), p. 12.

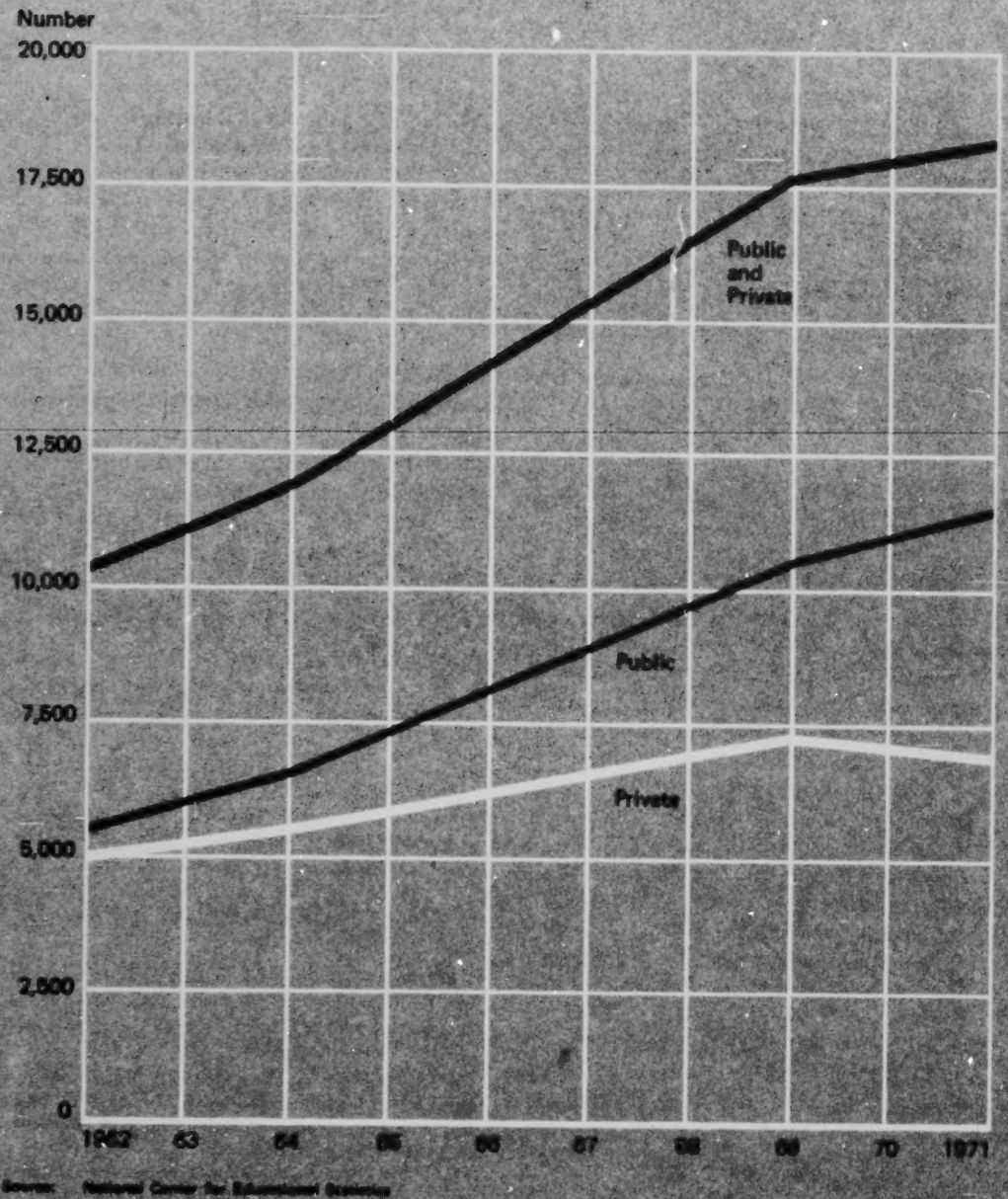
[11] "Educational services" is an industry group made up of elementary and secondary education; colleges and universities (public) libraries; and educational services, not elsewhere classified.

[12] Of principal importance are the 1969 survey of medical and health sciences libraries, the annual survey of law school libraries, and the 1972 survey of Federal libraries. These are discussed in appendix A.

[13] Anthony T. Kruzas, *Directory of Special Libraries and Information Centers* (Detroit, Gale Research Company, 1963), and Anthony T. Kruzas, *Directory of Special Libraries and Information Centers*, 2d edition (Detroit, Gale Research Company, 1968). In addition, Kruzas has published *Encyclopedia of Information Systems and Sources* (Ann Arbor, Edwards Brothers, 1971), which inventories those organizations whose methods of information storage and retrieval are based on new, automated technologies.

Chart 1

Employment of librarians in public and private colleges and universities, 1962-71



Source: National Center for Educational Statistics

Table 2. Trends in enrollments, instructional staff, and library staff in colleges and universities, 1959-60 to 1970-71

Year	Enrollment (1,000's)	Instructional staff (1,000's)	Library staff[1]			
			Total	Librarians	Other professionals	Nonprofessionals
1959-60	2,954	202	18,000	9,000	700	8,300
1960-61	3,200	214	([2])	([2])	([2])	([2])
1961-62	3,455	228	21,100	10,300	800	10,000
1962-63	3,696	242	([2])	([2])	([2])	([2])
1963-64	4,115	274	25,200	11,900	1,000	12,300
1964-65	4,671	317	([2])	([2])	([2])	([2])
1965-66	5,070	351	([2])	([2])	([2])	([2])
1966-67	5,480	378	([2])	([2])	([2])	([2])
1967-68	5,954	414	43,500	17,400	2,000	24,100
1968-69	6,344	444	45,150	17,695	2,454	25,001
1969-70	6,721	468	([2])	([2])	([2])	([2])
1970-71	7,178	501	48,211	18,295	3,054	26,862

[1] Library staff figures are actual survey results except the 1959-60, 1961-62, and 1963-64 data for "other professionals" and for "nonprofessionals," which have been adjusted to compensate for a refinement in the definitions introduced in 1967. Prior to that, "other professionals" (staff members other than librarians whose work normally requires completion of a least a bachelor's degree) were not separately reported, and most respondents classified them as "nonprofessionals."

[2] Not available.

NOTE: The employment data in this table are expressed in "full-time equivalents" (full-time personnel plus full-time equivalent of part-time personnel) and therefore are not comparable with the BLS estimates shown in table 1, which include both full-time and part-time personnel.

SOURCE: National Center for Educational Statistics.

libraries suffered during the business slowdown in 1969–70. In certain industries–notably engineering and aerospace–special libraries were reduced in staff, or closed entirely, because of drastic budget cuts.[14]

Library attendants and assistants. An estimated 120,000 persons worked as library attendants and assistants in 1970 compared to 37,000 in 1960. (See table 1.) This is an annual average increase of 12.5 percent. Approximately two additional library attendants and assistants took jobs for each librarian added to the labor force during the 1960's. For the most part, the increase is attributable to greater use of nonprofessionals in library work to perform work once done by professionals.

More than one-third of the attendants and assistants worked in public libraries, and another one-third worked in academic libraries. School libraries, though predominant in employment of librarians, employed only 16 percent of all attendants and assistants. Special libraries employed some 13 percent of the total.

Hours worked. Part-time employment is very high in library occupations. One in every three librarians worked part time (that is, fewer than 35 hours a week) in 1970 as did roughly 2 out of 3 library attendants and assistants, according to data from the 1970 census on number of hours worked.[15]

Part-time employment seems to be more significant in librarianship than in many other occupations. For professional, technical, and kindred workers as a whole, about 20 percent worked part time in 1970, compared to 34 percent of the librarians. And on the nonprofessional level, about 23 percent of all clerical workers were employed part time in 1970, compared to nearly 63 percent of the library attendants and assistants. It should be noted that these data do not provide a breakdown of full-time and part-time employment in different types of libraries. Thus, although use of part-time nonprofessional personnel is believed to be quite extensive in large public libraries (for one thing, pages generally work part time), the census data are not detailed enough for comparisons of the use of part-time personnel in different types of libraries.

[14] The vulnerability of special libraries to shifts in the economic climate is discussed by Bill M. Woods in "The Special Library Concept of Service," *American Libraries*, July-August 1972, pp. 759-68.

[15] For detail, see pp. 747-65 of *Census of Population: 1970, Occupational Characteristics*, Subject Reports, Final Report PC(2)-7A (Bureau of the Census, 1973). Data on the number of hours worked during a particular week are presented for more than 400 occupations, including librarian and library attendant and assistant. These data, based on a 5-percent sample of the population enumerated in 1970, represent the number of hours actually worked in a particular "reference" week, and do not necessarily reflect the number of hours usually worked or the scheduled number of hours. Classified as "part time" are persons who worked 1 to 34 hours during the reference week.

Table 3. Employment of special librarians by major industry group and selected industries, 1970

Industry group	Percent distribution
Total, all industries	100.0
Agriculture, forestry, and fisheries	0.1
Mining	.6
Construction	1.2
Manufacturing	20.6
Transportation, communications, and other utilities	1.9
Wholesale and retail trade	3.5
Finance, insurance, and real estate	4.8
Services, excluding educational services	47.6
Miscellaneous business services	5.2
Medical, other health services	6.1
Legal services	8.7
Religious organizations	9.5
Nonprofit membership organizations	6.6
Professional and related services	5.8
Government	19.6

Geographic distribution

More than half of the Nation's librarians are employed in nine States: New York, California, Illinois, Pennsylvania, Ohio, Texas, Michigan, Massachusetts, and New Jersey, according to 1970 census data. The concentration of library manpower is heaviest in the Middle Atlantic and East North Central regions, as shown in table 4.[16] This is about the same as the distribution of all professional and technical workers, both being associated fairly closely with population density. The geographic distribution of library attendants and assistants follows that of librarians.

A comparison with 1960 data shows that although employment of librarians rose sharply over the decade, distribution by region changed very little. (See appendix table 2.) The nine leading States included a somewhat smaller percent of all U.S. librarians in 1970 than in 1960, but there were only slight changes in rank order. New York, California, and Illinois together included 24 percent of the Nation's librarians in 1970, compared to 26 percent in 1960.

The greatest number of new jobs for librarians in the 1960's were in the largest States. In New York, for example, the number of librarians rose by more than 4,000 between 1960 and 1970. In California, in Pennsylvania, and in Texas, employment of librarians increased by 3,000. Substantial employment growth also took place in the following States, each of which employed at least 1,000 more librarians in 1970 than it had in 1960: Florida, Georgia, Illinois, Indiana, Maryland, Massachusetts, Michigan, New Jersey, North Carolina, Ohio, Virginia, and Wisconsin. (See appendix table 4.) Growth in 1960–70 was exceptionally rapid in Florida, Georgia, and Maryland where employment of librarians in 1970 was more than double the 1960 level.

Staffing patterns

Library staffing patterns vary considerably, and depend chiefly on the size and type of the institution. In many libraries, 80 percent or more of the staff are either librarians or library attendants-assistants—a broad category of nonprofessional occupations including assistants, technicians, technical assistants, aides, clerks, pages, and others in library-related occupations. Compared to the number in library occupations, relatively few persons are employed in libraries in nonlibrary occupations. The proportion ranges from zero in very small libraries—where the parent organization handles maintenance duties, for example—to 20 percent or more in large libraries. Examples of nonlibrary occupations are maintenance staff, including janitors, cleaners, building engineers, groundskeepers, and guards; clerical staff, including secretaries, typists, and clerks; and specialists in personnel and employee relations, budget and finance, computer science, and public relations.

Over the past decade, manpower utilization has emerged as a central concern of the library profession. Various projects launched in the 1960's—among them the School Library Manpower Project, Jobs in Instructional Media Survey, Health Sciences Library Manpower Study, and Illinois Task Analysis Study—have focused on task analysis and job redesign as a means of promoting more efficient use of library personnel. Task analysis as a research tool has been applied in different ways. In the Health Sciences Library Manpower Study, a job-task index was constructed to measure the extent to which individuals were engaged in a predefined range of professional or nonprofessional activities.[17] The School Library Manpower Project and the Illinois Task Analysis Study covered library work in greater depth but from different bases. The former was based on a predeter-

[16] Additional detail from the census, including 1970 employment by sex and 1960-70 growth, may be found in appendix tables 2, 3, and 4. Office of Education data on the geographic distribution of manpower employed in academic libraries and school libraries appear in appendix tables 5 and 6.

[17] Lesliebeth Rothenberg and others, "A Job-Task Index for Evaluating Professional Personnel Utilization in Libraries," *Library Quarterly*, October 1971, pp. 320-38.

Table 4. Employment of librarians and library attendants and assistants, by State, 1970

(Percent distribution)

State	Librarians	Library attendants and assistants	State	Librarians	Library attendants and assistants
Total	100.0	100.0	District of Columbia	1.2	1.0
Northeast:			Virginia	2.8	2.4
New England:			West Virginia	.5	.4
Maine	0.5	0.4	North Carolina	2.6	2.1
New Hampshire	.4	.4	South Carolina	1.3	.7
Vermont	.4	.3	Georgia	2.2	1.6
Massachusetts	3.7	4.6	Florida	2.7	2.5
Rhode Island	.4	.6	East South Central:		
Connecticut	1.6	2.0	Kentucky	1.3	1.2
Middle Atlantic:			Tennessee	1.7	1.3
New York	9.9	10.4	Alabama	1.3	1.1
New Jersey	3.5	3.1	Mississippi	.9	.7
Pennsylvania	5.5	4.6	West South Central:		
North Central:			Arkansas	.8	.6
East North Central:			Louisiana	1.5	1.3
Ohio	5.0	5.0	Oklahoma	1.1	1.0
Indiana	2.3	2.5	Texas	4.9	3.9
Illinois	5.6	4.8	West:		
Michigan	3.8	4.3	Mountain:		
Wisconsin	2.2	2.6	Montana	.5	.4
West North Central:			Idaho	.4	.3
Minnesota	2.0	2.3	Wyoming	.2	.2
Iowa	1.7	1.6	Colorado	1.2	1.3
Missouri	2.0	2.4	New Mexico	.6	.5
North Dakota	.3	.3	Arizona	.8	.8
South Dakota	.4	.4	Utah	.8	.5
Nebraska	.7	.7	Nevada	.2	.1
Kansas	1.4	1.3	Pacific:		
South:			Washington	2.0	2.2
South Atlantic:			Oregon	1.1	1.5
Delaware	.3	.3	California	8.6	12.6
Maryland	2.6	2.3	Alaska	.1	.1
			Hawaii	.5	.5

SOURCE: U.S. Bureau of the Census, Census of Population: 1970, *Characteristics of the Population*, Vol. 1, Pts. 1-50.

mined list of library tasks and reported what types of personnel in school libraries performed these tasks.[18] The Illinois study, on the other hand, based its analysis on tasks observed, defined, and rated by 15 variables in actual library situations.[19] This approach permitted the Illinois researchers to rate tasks by the qualifications needed to perform them. These major studies, and numerous other efforts on a smaller scale, have produced an impressive body of literature on job functions and educational requirements for library personnel.

Nearly all the work done in this area calls for a clearer distinction, in practice as well as in theory, between professional and nonprofessional duties. To this end, various suggestions have been put forth for restructuring jobs and reorganizing staffing patterns. Strong support is evident for the movement to restructure library jobs—separating out the clerical and routine components of professional jobs, and assigning the simpler tasks to paraprofessionals and nonprofessionals. Widespread interest in job redesign has been heightened by the advent of new procedures and technologies for handling the essentially clerical tasks which comprise a large portion of any library's daily operation. Of particular importance are recent innovations in cataloging procedure. The greatly increased availability of prepared cataloging copy, together with the application of computer technology to data processing procedures, has had a profound impact on ordinary library operations by reducing the number of professional decisions required and eliminating certain clerical procedures. This had made possible the simplification and rationalization of professional and nonprofessional tasks in the catalog departments of libraries throughout the country.

[18] "School Library Personnel Task Analysis Survey," *American Libraries*, February 1970, pp. 176-77.

[19] Social and Educational Research and Development, Inc., *A Task Analysis of Library Jobs in the State of Illinois*, Silver Spring, Md., SERD, 1970.

Library technical assistants. Most authorities have come to favor an additional level of library staffing, just below the professional level. The new paraprofessional occupation which has emerged in response to this need generally is designated "library technical assistant" or "library technician."[20] The library technical assistant occupies a position somewhere between the professional librarian and the library clerk. Estimates of the number of library technical assistants employed in the United States were not developed for this bulletin. Instead, they are included with all other nonprofessional library workers in the estimate of 120,000 library attendants and assistants employed in 1970. Of this total, library technical assistants probably comprise no more than 20 percent. Relatively few library technical assistants are believed to have any formal training in library technology. (More than 100 formal programs in library technology are offered in community colleges throughout the country. These programs are discussed briefly in the section on supply.)

The question of the role and training of the library technical assistant has received attention from various quarters, and a number of definitions and criteria for educational programs have emerged. Since 1966, the U.S. Civil Service Commission, for example, has published job descriptions for personnel in the Library Technician series, GS-1411. These define positions classed as Library Technician, and specify the education and experience needed. In 1967, the Council on Library Technology (COLT) was established to offer a means of communication to persons and institutions involved in training of library technical assistants. COLT has sponsored regional workshops and annual conferences and has actively encouraged research on library technical assistant programs and graduates.

The American Library Association (ALA) has issued several policy statements. The official ALA position on appropriate educational programs for library technical assistants was adopted in 1969 and revised in 1971.[21] It outlines requirements for faculty, facilities, curricula, and student selection and placement. An ALA policy statement on library education and manpower was adopted in 1970.[22] This document recommends levels of training and education appropriate for the following categories of library personnel: Senior Librarian (Senior Specialist), Librarian (Specialist), Library Associate (Associate Specialist), Library Technical Assistant (Technical Assistant), and Clerk. The Medical Library Association issued a statement on the training of medical library technicians in 1967 and adopted standards for medical library technicians in 1970.[23] The latter are generally compatible with the ALA recommendations for educational programs to prepare library/media technical assistants, although they call for medical specialization as part of a curriculum. The Special Libraries Association, while taking no official action, has been active in the discussion of paraprofessionals at its conferences, and has published articles on the subject in its journal. In these various ways, ". . . the profession has been moving toward asserting responsibility for the definition and supervision of the training and education for the library technical assistant."[24]

The task analysis projects described earlier have identified a number of duties characteristically performed by library technical assistants. In practice, however, there appears to be great variation in task assignments from library to library. Two studies cited by Chisholm and Anderson[25] attest to the wide range of tasks performed by technical assistants.

A special effort was made in this survey to obtain a clearer understanding of the extent to which library technical assistants are employed; of the ways in which they are used; and of the type of education and training employers consider most useful for them. This effort was not entirely successful. The difficulties encountered by BLS interviewers result chiefly from the fact that the occupation is an emerging one. Despite various efforts by the library associations to clarify the role of the library technical assistant, this relatively new occupation is not entirely understood, nor is it accepted by the profession at large. Although the library technical assistant currently is accepted as a meaningful staff level in most large libraries, this is not the case everywhere. Many librarians in small libraries are acquainted with

[20] Although a few programs for training library technical assistants have been in existence since the late 1940's, the paraprofessional level of library worker did not attract serious attention from the profession until the mid-1960's, when concern about the shortage of qualified librarians created strong interest in optimal use of library personnel at all levels.

[21] *Criteria for Programs to Prepare Library Media Technical Assistants* (Chicago, American Library Association, 1971).

[22] "Library Education and Manpower," *American Libraries*, April 1970, pp. 341-44.

[23] "MLA Official Policy Statement on the Training of Medical Library Technicians," *Bulletin of the Medical Library Association*, October 1967, p. 510 and Medical Library Association, *Standards for Medical Library Technicians* (Chicago, MLA, 1970).

[24] Elin Christianson, *Paraprofessional and Nonprofessional Staff in Special Libraries* (New York, Special Libraries Association, 1973).

[25] Studies by Charlotte Mugnier and John E. James, cited in Margaret E. Chisholm and Charles R. Anderson, *Education, Job Roles, and Upward Mobility: An Investigation of Opportunities at the Pre- and Paraprofessional Level in Government Libraries in the Washington, D.C. Area* (College Park, Md., University of Maryland, 1973).

library technical assistants only through the professional literature; they have had no experience at all with them on a practical level. The absence of a standard, commonly accepted terminology to describe library employees at the paraprofessional level contrasts sharply with the widespread understanding of the distinction between a professional librarian and a nonprofessional library staff member. An SLA publication puts it this way:

> . . . On a day-to-day basis, the bisection of personnel into professional/nonprofessional categories is readily understood and practiced in the library community. The librarian, considering an individual or staff, can informally place workers into one or the other category. He uses a combination of knowledge of the individual's education, background, experience, and responsibilities to make a judgment.[26]

The survey responses on library technical assistants in school libraries and special libraries are not presented in this report. There were fewer problems with survey responses from the public and academic libraries. These libraries were, for the most part, much larger than the school libraries and special libraries surveyed and accordingly had more complex staffing patterns—often encompassing librarians, specialists, library technical assistants, clerks, and pages. Library technical assistants comprised about 30 percent of the full-time equivalent staff in the academic libraries surveyed. In the technical services area in particular, library technical assistants have assumed considerable responsibility for routine duties formerly performed by academic librarians. In the public libraries surveyed, library technical assistants made up 15 percent of the FTE staff. In addition to relieving public librarians of routine tasks in acquisitions and cataloging, library technical assistants in some public library systems have been assigned to supervise branch libraries. In some school systems a parallel development reportedly is taking place, as library technical assistants—rather than librarians— are put in charge of elementary school libraries.

Changing job functions. Survey respondents were asked to discuss changes which had taken place over the preceding 5 years in the job roles of librarians, technicians, and clerks. The consensus regarding librarians was that their tasks had become more specialized and that they were devoting more time than ever before to "professional" tasks, notably program planning and administration. There was general agreement that technicians had assumed greater responsibility for routine library tasks, especially in the area of cataloging. There was a corresponding increase in the level of responsibility for clerks.

The trend toward greater differentiation between professional and nonprofessional tasks is apparent in school libraries. A number of them mentioned (1) greater specialization and more effective differentiation between the professional and clerical levels, with a resultant shift downward of responsibility for routine tasks; (2) greatly increased importance of audiovisual–media materials and services, with a consequent increase in media–related duties for professionals and nonprofessionals alike; and (3) closer contact by the library staff with students and teachers. Significant changes in curriculum design and emphasis on individualized instruction have led to a shift away from the traditional classroom concept, toward heavier library use. School librarians are much more directly involved than they used to be in the teaching and learning process. The shift of routine and clerical tasks from librarians to technical assistants and clerks was associated primarily with advances in cataloging, notably the increased use of prepared cataloging copy. In the relatively few schools employing technical assistants as well as clerks, certain supervisory responsibilities have been shifted downward as well; technical assistants frequently supervise clerks and student assistants.

Public librarians generally agree that the gradual elimination of nonprofessional duties from professionals' jobs is the most noteworthy change of the past 5 years or so. Librarians reportedly spend more time on planning and administration and less on routine operations. Many of the clerical tasks formerly performed by librarians now are entrusted to library technical assistants and clerks. Among other changes in public librarians' duties are: (1) more audio-visual/media work, (2) more community outreach work, and (3) more professional specialization. Several public libraries stressed recent efficiency gains on the part of the technical services staff due to the introduction of new systems for selecting, acquiring, and processing library materials. The simplification of cataloging procedures through the increased use of prepared cataloging copy was noted less frequently by public librarians than it was by academic librarians.

Many of the academic libraries surveyed reported that librarians were spending less time than before on duties of a routine or clerical nature. This is chiefly due to the reorganization and simplification of acquisitions and cataloging procedures, which has made it possible for technical assistants and clerks to handle steps in the procedure which previously required a professional librarian's attention. More effective differentiation between professional and nonprofessional duties in aca-

[26] Christianson, op. cit., p. 2.

demic libraries also has come about because of staff expansion. Hiring of additional staff has permitted greater specialization in work assignments, thus usually freeing professional librarians from certain "nonprofessional" duties. A number of academic libraries indicated increased specialization at the professional level as well. Rapid growth in the scope and size of academic library collections, together with the addition of professional staff, has resulted in the creation of new positions in some libraries. Among these are rare books librarian, periodicals librarian, acquisitions librarian, government documents librarians, and audiovisual librarian.

Some evidence of a downward shift in responsibility for routine and clerical library operations appears in special libraries. In one library, library technical assistants have relieved librarians of routine cataloging duties; in another, delegation of routine duties to clerks has enabled the head librarian to devote more time to policymaking, planning, and administration.

Volunteers and student assistants. The use of volunteers and student assistants varies by type of library. Volunteers worked in nearly 90 percent of the school libraries surveyed, and in 60 percent of the public libraries. They do not seem to be used to any great extent in academic or special libraries; only about 15 percent of these libraries reported any volunteers.

The amount of labor contributed by library volunteers is modest in comparison with the hours worked by regular staff members. In most cases, library administrators appear to make a conscious effort to ensure that volunteers are not used as a low-cost substitute for regular staff. This is not always the case, however. A few libraries reported that recent budget cuts had forced staff cuts and, as a result, continuation of certain library services depended entirely on the availability of volunteers.

Only school libraries and academic libraries were queried about the use of paid student assistants. About 20 percent of the school libraries used paid students; few of these used volunteers. All academic libraries in the survey employ students in campus libraries, a practice which is regarded as a form of student aid. Federally funded Work-Study Programs[27] pay the salaries of many students working part-time in college and university libraries, a well-established and generally successful arrangement which reportedly benefits students and libraries alike.

[27] Federal funds are made available to colleges and universities to promote the part-time employment of postsecondary students in financial need under Title IV-C of the Higher Education Act of 1965, as amended.

The data show that school libraries rely most heavily on volunteers. Nine out of 10 schools in the survey reported some use of volunteers, and the amount of time contributed by volunteers in school libraries was considerably greater (relative to manhours worked by regular library staff) than in other types of libraries. In the 30 public school systems and nonpublic schools surveyed, the number of library volunteers in 1972 ranged from zero[28] to more than 150, with most schools reporting 10-50 volunteer parents, students, or others. School library volunteers mostly assist with routine tasks: Charging books in and out, shelving, processing, mending, preparing library materials for the bindery, typing, filing, and delivering library materials to teachers. The duties performed by volunteers have not changed appreciably over the past 5 years, according to most respondents. School libraries use as many or more volunteers today than they did 5 years ago; only 8 percent reported using fewer volunteers in 1972 than in 1967.

Of the 35 public libraries surveyed, 20 used volunteers in 1972 and 15 did not. Large public libraries show a greater propensity to use volunteers than smaller ones; three out of four of the public libraries in the survey which employed 100 staff members or more in 1972 used the services of volunteers. Among public libraries employing a total of 20 persons or less, however, only 1 in 4 used volunteers.[29] Compared to the number of persons they employ, public libraries—both large and small—use very few volunteers. The number of volunteers in public libraries surveyed ranged from 1 to 50;[30] total man-hours contributed per week were well under 100 (the equivalent of 2.5 staff members working 40 hours per week) in all but one public library in the survey. Compared to the total number of people employed in these libraries, the amount of volunteer assistance was scarcely significant in terms of additional manpower. The chief value of volunteer assistance in public libraries appears to be noneconomic. There is, on

[28] Of the 3 school systems in the survey which reported zero volunteers in 1972, one is a big-city system employing more than 400 full-time and part-time library personnel, plus paid student assistants. Neither of the other systems—both much smaller—uses paid student assistants.

[29] The distribution of all 35 public libraries surveyed was as follows:

Staff size	*Volunteers*	*No volunteers*
20 or fewer	3	8
21-99 persons	5	3
100 or more	12	4

[30] Three libraries, each with a total full-time and part-time staff exceeding 100 persons in 1972, were unable to specify how many volunteers they had used during the year. There was no reason to believe that they differed significantly from other libraries of comparable size in the number of volunteers used.

the one hand, a public relations benefit for the library from direct community involvement in the library's activities. On the other hand, volunteers who succeed in demonstrating a spirit of good will may greatly improve the quality of ordinary library services. This is especially valuable in the area of community outreach—including services to the homebound—which is a major activity for public library volunteers. Although volunteers perform a variety of routine tasks in public libraries, they appear to be employed most heavily in types of work which do not overlap the duties of paid staff members, notably outreach and extension services. Volunteers characteristically deliver books to shut-ins, provide materials to hospital patients, and assist with story hours, and summer reading clubs. As in the case of school libraries, there has been little appreciable change in the duties of public library volunteers in the past 5 years. And compared with 1967, nearly all public libraries today use as many or more volunteers.

Few of the academic and special libraries surveyed by BLS use volunteers. The desire of virtually all colleges and universities to provide campus employment opportunities for their students militates against their use. Relatively few special libraries would be likely to consider it appropriate to solicit or accept volunteer services. Hospital libraries are a significant exception. They rely heavily on volunteer help. The 1969 health sciences library survey found that almost half of all hospital library personnel were volunteers.

Career ladders. Opportunities for upward mobility within the library profession are fairly limited. There are several reasons for this. Most important is the customary educational requirement for entry at the professional level which prevents nonprofessionals from progressing to professional positions on the basis of experience alone. A college or graduate degree—including course work in librarianship—almost always is essential to appointment at a professional level. Nonprofessionals and paraprofessionals thus are blocked, as a rule, from entering the professional grades. Despite widespread interest in generating career opportunities for nonprofessionals, very few libraries appear to have taken steps to facilitate the movement of nonprofessionals into professional positions because of the current job market for professionals.

Another important reason for the relatively limited upward mobility characteristic of librarianship is staff size. In many libraries, the number of staff members is so small that there is little opportunity for advancement based on skill specialization, added responsibility, or supervisory duties. This is equally a problem for professionals and for nonprofessionals. In a fairly typical library staffed by two librarians and three clerks,[31] for example, there is not much scope for a hierarchy of jobs. Many libraries—school libraries and special libraries in particular—are about this size. They are not in a position to offer their employees much prospect of advancement.

In general, differentiated staffing patterns which include a hierarchy of jobs and provide opportunities for promotion are encountered more often in public and academic libraries, i.e., in the larger libraries, than in other kinds of libraries.

Career ladders of varying degrees of complexity were described to BLS interviewers during the Library Manpower Survey. All of the large public libraries in the survey, and many medium-sized ones as well, have personnel structures which provide at least two separate career ladders; one for librarians and one for clerks. A number of public libraries have a third ladder as well, for paraprofessional personnel. Job titles for the paraprofessional level vary considerably; "library assistant" was encountered more frequently than "library technician" or "library technical assistant." Following are two examples of public library career ladders. The more complex pattern is used in a large library. It establishes three separate career ladders for library personnel, and has a "lattice" feature which enables clerks to switch into the library technician series after 2 years' experience.

Librarians

Librarian I (MLS[32] from ALA-accredited school)
Supervising Librarian I (MLS plus 1 year's experience)
Supervising Librarian II (MLS plus 3 years' experience)
Supervising Librarian III (MLS plus 4 years' experience)
Supervising Librarian IV (MLS plus 5 years' experience)
Chief Supervisor (MLS plus 6 years' experience)

Library technicians

Library Technician I (1 year's college plus 6 hours' Library Science plus 3 years' experience)
Library Technician II (2 years' college plus 12 hours' Library Science plus 4 years' experience)
Library Technician III (2 years' college plus 24 hours' Library Science plus 5 years' experience)

[31] Survey results for the smallest libraries in the BLS sample, that is, for libraries employing one to four full-time and part-time librarians, show marked differences *by type of library* as to the number of nonprofessionals employed. These data indicate that small public and academic libraries employ more nonprofessionals than equally small school libraries. A public or academic library with two librarians on the staff probably employs three to five clerks, whereas a school library staffed by two librarians probably only one to two clerks. Data on special libraries were not reliable enough for publication.

[32] Or equivalent, such as MSLS.

Library clerks

Clerk I (high school graduate)
Clerk II (high school plus 6 months' experience)
Clerk III (high school plus 1 year's experience)
Clerk IV (high school plus 2 years' experience)
Library Technician I (see above) or Clerk V (2 years' college plus typing plus 4 years' experience)
Chief Clerk (2 years' college plus supervisory course plus 6 years' experience)

The less complex example is typical of the formal job structure in many medium-sized public libraries:

Librarians

Librarian (MLS)
Senior Librarian (MLS plus 18-24 months' experience)
Principal Librarian (MLS plus experience)
Supervisory Librarian (MLS plus experience)
Coordinating Librarian (MLS plus experience)
Assistant Chief Librarian (MLS plus experience plus administrative ability plus formal training)

Clerks

Clerk (high school graduate)
Senior clerk (high school plus 18 months' experience)
Supervisory Clerk (high school plus experience plus formal training)

A separate career ladder for paraprofessionals is found, almost exclusively, in large public libraries, university libraries, and Federal libraries. The personnel structure in most other libraries provides a staff distinction only between librarians and clerks—"professionals" and "nonprofessionals." Moreover, when the "library assistant" level does exist, as in many large public libraries, a bachelor's degree almost always is required at the entry level. A graduate of a community college library technology program would not satisfy the formal requirements for "library assistants" in one of these libraries.

Few of the other libraries surveyed had personnel structures as formal and complex as those described by the large and medium-sized public libraries. However, a few large university libraries had comparable systems, with librarian, library assistant, and clerk classifications each encompassing three or four grades. None of the school libraries surveyed described a formal career structure for their professional or nonprofessional staff members.

Demographic characteristics

Sex. An estimated 97,000 women worked as librarians in 1970. (See table 5.) They constituted 84 percent of the total number employed.[33] The proportion of women librarians varies by type of library, however, ranging from 66 percent in academic libraries to 93 percent in school libraries.

Among library attendants and assistants, the proportion of women is slightly lower—an estimated 94,500 women worked as library attendants and assistants in 1970, nearly 79 percent of the total. There are striking similarities in the distribution by sex of library personnel in different types of libraries. School libraries, for example, employ a very high proportion of women—well over nine-tenths in both library occupations—whereas the proportion of women employed in academic libraries is only about two-thirds.

Men and women appear to pursue different specialties within librarianship. In 1970, about 60 percent of all men librarians, but only 26 percent of all women librarians, were employed in academic or special libraries. For women, school libraries rank first. About 50 percent of all women librarians work in school libraries, compared to only 20 percent of the men. Among library attendants and assistants, too, men and women exhibit different employment patterns. Men library attendants and assistants are concentrated most heavily in academic libraries, whereas women library attendants and assistants are distributed somewhat more evenly among all kinds of libraries. (See chart 2.)

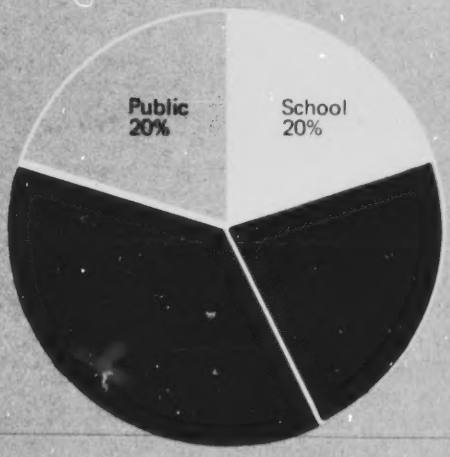
Men have been attracted to librarianship in growing numbers in recent years. To some extent, this reflects the profession's evident concern with its image, and the success of efforts to alter what it regards as an unfavorable stereotype. Consequently, men are actively recruited for professional positions in libraries. The increase in the number of men working in libraries also may reflect a heightened tendency for new college graduates with backgrounds in management, computer science, audiovisual technology, law, and engineering to consider careers in librarianship. According to the limited data available, the number of men librarians increased more than 80 percent between 1960 and 1970. However, employment of women librarians rose over 60 percent in the same period, and because of their large number, the proportion of men in the field shows little change.

Only a few professional occupations—notably nursing and teaching—have as high a proportion of women as librarianship. About 40 percent of all professional, technical, and kindred workers in 1970 were women, However, 84 percent of all librarians were women, as

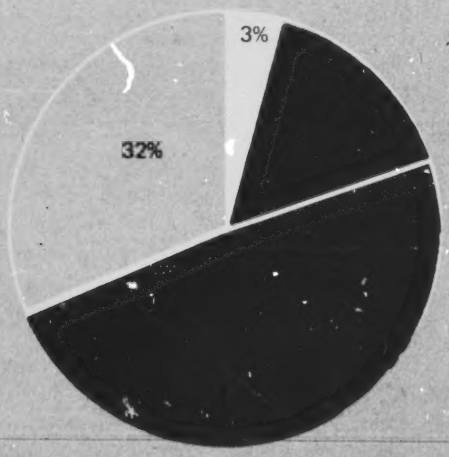
[33] For the method used to derive estimates of the demographic characteristics of librarians and library attendants and assistants, see appendix A.

Chart 2

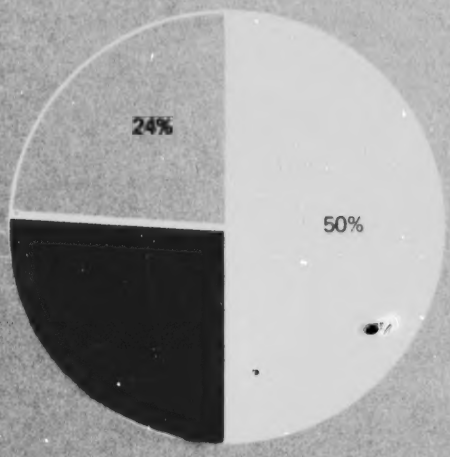
Employment of librarians and library attendants and assistants by sex and type of library, 1970



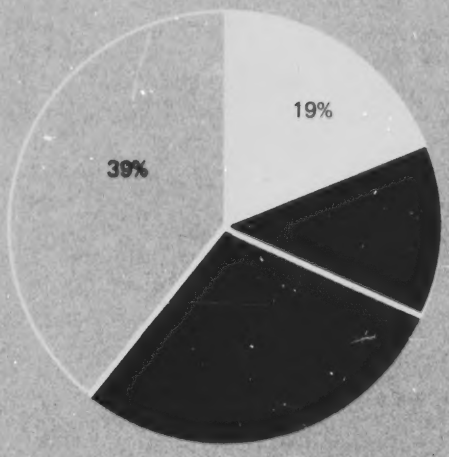
Male librarians
Total: 18,000



Male library attendants and assistants
Total: 25,500



Female librarians
Total: 97,000



Female library attendants and assistants
Total: 94,500

Table 5. Employment of librarians and library attendants and assistants by type of library and sex, 1970

Type of library	Librarians			Library attendants and assistants		
	Total	Men	Women	Total	Men	Women
All libraries	115,000	18,000	97,000	120,000	25,500	94,500
School	52,000	3,600	48,400	19,000	700	18,300
Public	26,500	3,700	22,800	45,000	8,300	36,700
Academic	19,500	6,600	12,900	40,000	12,500	27,500
Special	17,000	4,100	12,900	16,000	4,000	12,000
All libraries	100	16	84	100	21	79
School	100	7	93	100	4	96
Public	100	14	86	100	18	82
Academic	100	34	66	100	31	69
Special	100	24	76	100	25	75

were 95 percent of registered nurses, dietitians, and therapists and 84 percent of elementary schoolteachers. The proportion of women in most other professional occupations was much lower, as for example, accountants–19 percent, engineers–less than 2 percent, physicians, dentists and related practitioners–8 percent, and writers, artists, and entertainers–30 percent.

Age. Women librarians are older than men, on average. According to census data on employed librarians, 48 percent of the women but only 26 percent of the men were age 45 years or over in 1970. (See chart 3.) Data for 1960, while not strictly comparable, suggest that a larger proportion of librarians are in the younger age groups today than was the case a decade ago. This is in line with BLS survey results. Many of the librarians surveyed in 1973 reported that the average age of professional staff members had declined since 1967, chiefly because of retirements and expansion. The vacancies and new positions were filled, by and large, by recent M.L.S. or college graduates, most of whom were in their twenties or thirties.

Despite this trend, nearly 44 percent of all librarians were age 45 years or over in 1970, a significantly higher percent of older workers than in any other professional occupation, except for physicians and dentists as shown below:

Occupation	*Percent 45 years or over*
Librarians	.44
Professional, technical, and kindred workers	.34
Accountants	.40
Computer specialists	.10
Engineers	.36
Physicians, dentists, and related practitioners	.48
Registered nurses, dietitians, and therapists	.38
Social and recreation workers	.32
Teachers, except college and university	.32
Writers, artists, and entertainers	.32

The average age of library attendants and assistants is considerably lower than that of librarians. Fully 50 percent of the attendants and assistants employed in 1970 were age 24 years or less. As in the case of librarians, however, the men tend to be younger than the women. According to the 1970 census, the median age of men library attendants and assistants was 21.9 years, compared to 29.8 years for women.

Race. The distribution of librarians by race is much like that of other professional occupations: they are predominantly white. In 1970, the percent of librarians who were white compared with other occupations as follows:

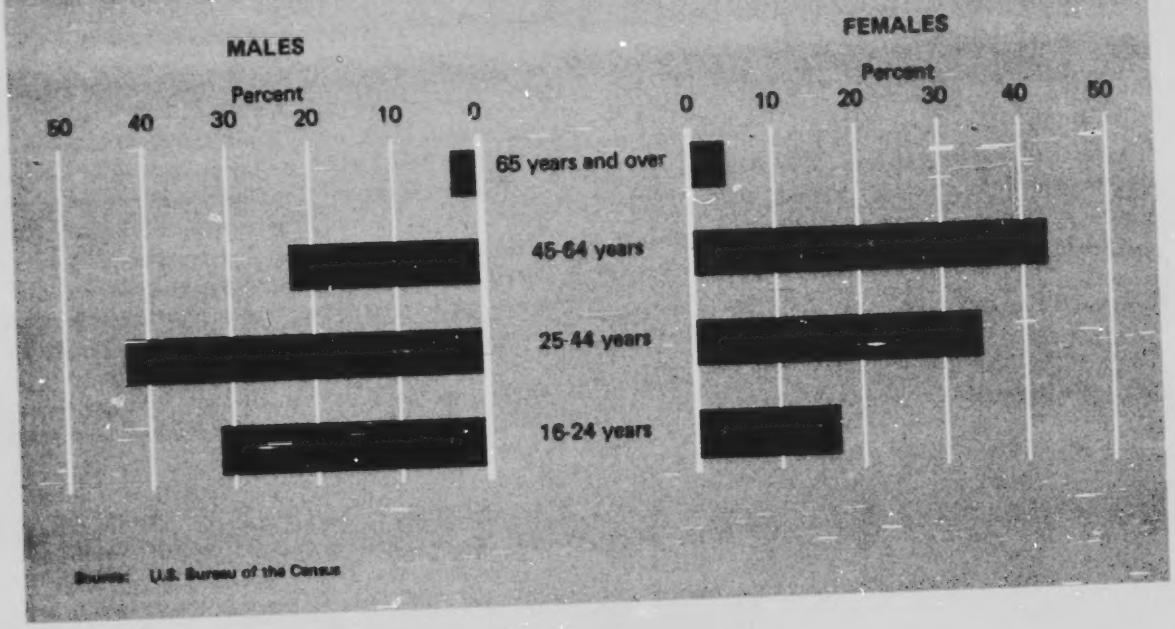
Occupation	*Percent white*
Librarians	.92
Professional, technical, and kindred workers	.93
Computer specialists	.95
Engineers	.97
Registered nurses, dietitians, and therapists	.90
Teachers, except college and university	.90

The number of black librarians doubled between 1960 and 1970, rising to 8,000 from roughly 4,000. Overall, the proportion of nonwhites employed as librarians rose during the sixties, from about 6 percent in 1960 to 8 percent in 1970. Employment of librarians of Spanish origin was somewhat less than 2,000 in 1970, according to 1970 census data.[34]

[34] For additional detail on the distribution by race and sex of employed librarians, see p. 12 of *Census of Population: 1970, Occupational Characteristics*, Subject Reports, Final Report PC(2)-7A (Bureau of the Census, 1973). Employment data based on a 5-percent sample of the population are presented for whites, Negroes, American Indians, Japanese, Chinese, Filipinos, and persons of Spanish origin. It should be noted that persons of Spanish origin are double-counted. Since they may be of any race, they are counted once in the appropriate racial category and a second time in the "Spanish origin" category. Data for library attendants and assistants appear on p. 17 of the same publication.

Chart 3

Employment of librarians by age and sex, 1970



Source: U.S. Bureau of the Census

Library attendants and assistants, too, are predominantly white. In 1970, more than 90 percent of the attendants and assistants were white, about 8 percent were black, and only 2 percent were members of other races. Library attendants and assistants of Spanish origin numbered more than 2,700 in 1970.

Educational attainment

Probably no more than 40-50 percent of all librarians employed in the United States have a master's degree in librarianship, the academic credential which the profession considers a "basic requirement" for a practicing librarian.[35]

There are several reasons for this, the chief one being the relatively large number of school librarians. Nearly half the librarians in the United States work in school libraries, where, as a rule, the most important credential is a State teaching certificate—not a master's degree in librarianship.[36]

In nearly all States, the minimum educational requirement for a school librarian is a bachelor's degree, including a designated number of undergraduate hours in education and some additional hours in library science. State requirements vary as to the number of credit hours of library science required for certification as a school librarian, but 18 hours is fairly standard. Only a few States—notably Hawaii, Kentucky, and New Jersey—demand a master's degree in librarianship in addition to the bachelor's degree with a major or minor in education. However, some local boards of education are more stringent in their requirements than State certification authorities.

At present, because of the tight job market, many schools can and do insist that newly hired librarians have the master's degree in librarianship, even though this is not a formal State requirement.[37] Because of their special focus on children and learning, school librarians tend to have more in common, professionally, with teachers than they have with their colleagues in public, academic, or special libraries. Compared to other librarians, school librarians are less likely to have earned the master's degree in library science and more likely to have a background in education, including some audiovisual or media skills.

Another reason for the relatively low percent of librarians with graduate degrees lies in a change, about 25 years ago, in the level of training required for professional librarians. Until the late 1940's, the 5-year bachelor's degree in library science (no longer awarded by U.S. library schools) was the normal background for a professional librarian. The master's program in library science—now the standard first professional degree[38]—was officially endorsed by ALA in 1951, when new standards for accreditation of library school programs were adopted. (The 1951 standards for accreditation were revised in 1971.) Thus, prior to the early 1950's, virtually all library school graduates were recipients of the so-called "fifth year" bachelor's degree in library science. A diminishing but still discernible number of today's practicing librarians completed their professional training and began work in the 1930's or 1940's.

The predominance of older librarians contributes in still another way to the relatively low percent of librarians who have the master's degree. Professional standards have risen over the years, and are continuing to rise, so that with the important exception of school libraries, fewer and fewer libraries are hiring beginning librarians who are not library school graduates. Insistence on formal professional training is a fairly recent development, however, and some older librarians are still at work whose qualifications lie in long years of varied experience, rather than formal training in library school.

Still another reason for the relatively low percent of librarians with the master's degree is the limited financial base of small libraries. Quite a few of the public libraries serving communities of 25,000 inhabitants or less operate with an extremely low budget, and a total staff of 2 or 3 persons. A number of special libraries operate under the same constraints. Despite the overall upgrading of professional standards, these libraries generally are not in the market for graduate librarians. Their resources are simply too limited.

[35] The American Library Association's official position on the level of training and education appropriate for various library occupations is set forth in *Library Education and Manpower, A Statement of Policy Adopted by the Council of the American Library Association* (Chicago, ALA, 1970).

[36] All of the 48,000 librarians or more employed in public schools, and some of the estimated 4,000 librarians in nonpublic schools, are required by State law or regulation to hold appropriate teaching certificates. Cf, *A Manual on Certification Requirements for School Personnel in the United States* (Washington, National Education Association, 1970), p. 28.

[37] This is not always the case, however. In school systems where personnel with a master's degree automatically command a higher starting salary than those with a bachelor's degree, job applicants with a bachelor's degree generally are preferred.

[38] The master's degree in librarianship is regarded as the first professional degree by the American Library Association (ALA). The ALA does not recognize the bachelor's degree, even one with a library science major, as adequate preparation for a professional librarian. This point of view has produced an official protest from the American Association of School Librarians inasmuch as the bachelor's degree is the standard preparation of school librarians.

BLS and other survey data indicate clearly that small public libraries differ substantially from larger ones in terms of staff credentials. The BLS survey conducted in early 1973 provides data on the educational attainment of 1,778 librarians in 35 public libraries, including six "small" public libraries serving 25,000 persons or less. In the small public libraries surveyed by BLS–each with a 1972 operating budget of less than $45,000–only 1 librarian in 5 had the master's degree in librarianship compared to 4 out of 5 with the master's in all public libraries surveyed. Furthermore, fully a third of the librarians staffing these small public libraries had no more than a high school education. Elsewhere–in larger public libraries, in school and academic libraries, and in most special libraries–the librarian with no college education at all has virtually disappeared.

Office of Education survey data indicate that public librarians with the master's degree are concentrated in the Nation's largest libraries. In 1968, the 85 largest public libraries[39] in the United States employed two-thirds of the total number of master's degree librarians[40] in public libraries serving 25,000 persons or more. Over 1,000 smaller public libraries employed the remainder. Comparable 1968 data are not available on public libraries serving fewer than 25,000 persons.

The BLS survey reveals certain patterns in the educational background of librarians working in different types of libraries. School librarians, predictably, are much less likely than others to have a master's degree in librarianship. Moreover, almost as many school librarians have a graduate degree in another field as have the master's in library science. About 65 percent of the school librarians covered by the survey had only a bachelor's degree; the remainder had either the library science master's (20 percent) or another graduate degree (15 percent). Very few school librarians reported two graduate degrees (library science master's plus a master's or doctorate in another field).

The picture in academic libraries is quite different. According to the survey, 95 percent of academic librarians have the master's degree in librarianship,[41] and a sizable and growing number have two graduate degrees.

Diversity of professional credentials probably is greatest among public libraries and special libraries. In some public libraries, all the librarians on the staff hold master's degrees in librarianship, while in others, none do. The number of graduate librarians in public libraries is rising, however, for in the past several years, most public libraries that could afford to do so have given preference in hiring to master's graduates (or, in the case of librarian trainees, to persons enrolled in a graduate program in library science). Over 80 percent of the public librarians covered by the survey had the master's degree in librarianship. Very few had two graduate degrees. The percent of librarians with library science master's was higher (about 90 percent) in libraries serving 500,000 persons or more, and lower in smaller libraries: roughly 60 percent of the librarians in public libraries serving 50,000–99,999 persons had the master's degree, and only about 20 percent in libraries serving fewer than 25,000 persons.

Survey data on educational attainment of special librarians are too limited for meaningful comparisons. Nevertheless they illustrate the great variety in types of special libraries, and in appropriate staff qualifications. In special libraries, subject expertise is exceptionally important, and it is not uncommon for the head librarian to be a subject expert with strong academic credentials–a chemist, historian, or lawyer, for example–with course work but no formal degree in librarianship. In law school, medical school, and other special libraries within a university setting, however, the special librarian almost invariably has a library science master's, and frequently has two graduate degrees.

Chart 4 depicts the improvement in librarians' educational qualifications which took place between 1960 and 1970. According to decennial census data, the proportion of librarians with at least a college education rose significantly, from over half in 1960 to nearly two-thirds in 1970. The census data show 42 percent of all librarians in 1970 having completed 5 years or more of college (i.e., library science master's or other graduate work), up from 35 percent 10 years before. This increase in the proportion of librarians with graduate training reflects the considerable expansion of library education programs during the decade of the sixties. Compared to the substantial upgrading of librarians' educational qualifications between 1960 and 1970, the improvement in attendants and assistants' qualifications was much more modest. Nonetheless, more than half of all library attendants and assistants in 1970 had at least some college education, and nearly 20 percent were college graduates.

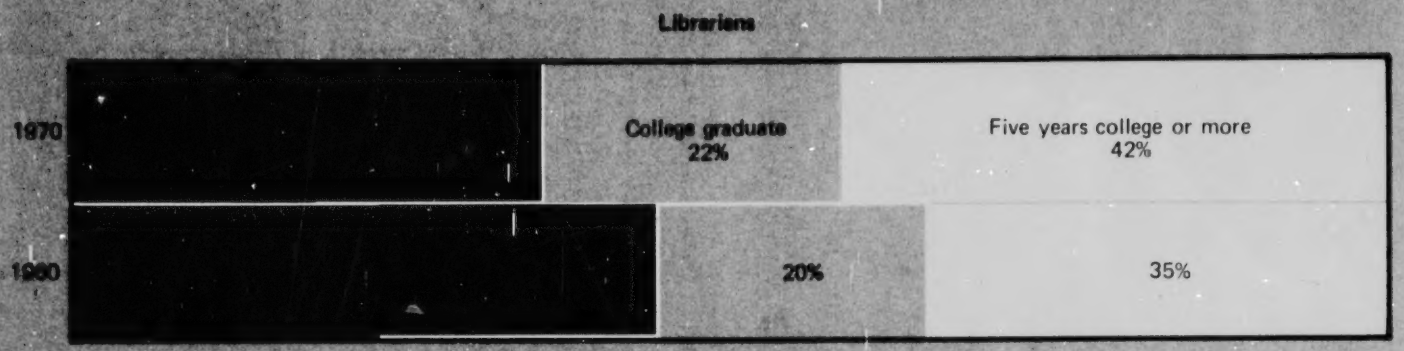
[39] Largest in terms of library staff size. Each of the 85 libraries employed 100 FTE persons or more, not including maintenance. *Statistics of Public Libraries Serving Areas with at Least 25,000 Inhabitants, 1968* (Office of Education, 1970, OE-15068-68).

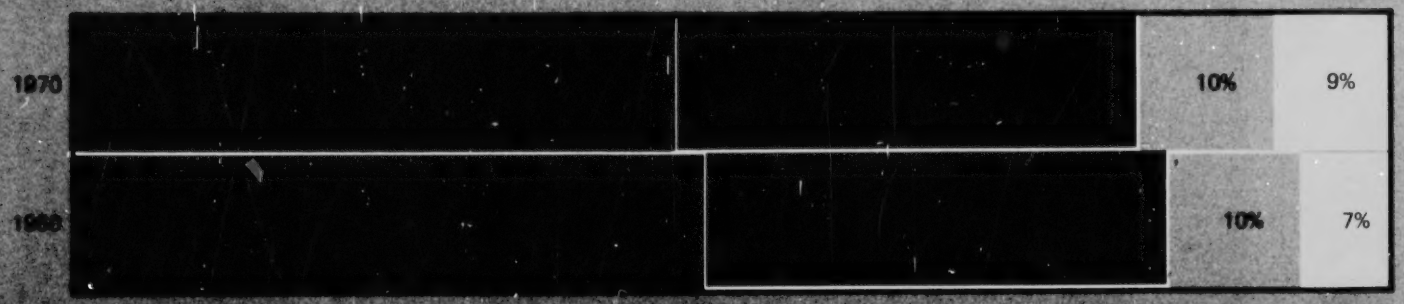
[40] Includes recipients of the "fifth year" bachelor's degree in librarianship, no longer awarded by U.S. library schools.

[41] Includes double degrees. About 78 percent of the academic librarians surveyed had the master's degree in librarianship only and another 16 percent had the library science master's plus a second graduate degree; roughly 1 percent had a graduate degree but not in librarianship; and not quite 5 percent had a bachelor's degree only or less.

Chart 4

Years of school completed by librarians and library attendants and assistants, 1960 and 1970





Source: U.S. Bureau of the Census

The survey provides data on the training of attendants and assistants in different types of libraries. In academic libraries, the educational attainment level is particularly high; over 70 percent had some college, and of these, half had a college degree. High school graduation is the usual entry requirement for attendants and assistants in public libraries and school libraries. Over 65 percent of the attendants and assistants in the public libraries surveyed, and 85 percent in the school libraries, had a high school education.

A few attendants and assistants working in academic libraries had graduate degrees, including master's degrees in library science. This, however, was highly unusual. A number of people with the bachelor's degree in library science were employed as library attendants and assistants, mostly in public or school libraries. Very few of the attendants and assistants working in libraries surveyed by BLS had completed the 2-year community college program for library technician training, or had been awarded the associate of arts degree in library technology. The total was well under 1 percent in all libraries surveyed.

Tables 6 and 7, based on 1970 census data, illustrate the difference in educational attainment of men and women librarians, and offer a comparison with eight other professional occupations. More men than women librarians had gone on to complete 5 years or more of higher education—52 percent of the men and 39 percent of the women. This compares favorably with professional and technical workers as a whole, but among the selected occupations shown, social scientists, college and university teachers, and counselors all had higher average educational attainment levels than librarians. Librarians compared very closely with secondary school teachers in years of college completed.

The survey sought to explore recent changes in educational requirements for library manpower. The principal finding is that the profession is undergoing a rapid upgrading. Although only about half of all librarians have the master's degree in librarianship, this is a far larger percent than a decade ago. Moreover, today's entering librarians are more likely than their predecessors—even those of just a few years ago—to have a graduate degree in librarianship. In less than a decade, the library science master's has become the standard credentials for jobseekers in virtually all large libraries, and in many smaller ones as well.

The master's degree in librarianship is required for employment in 95 percent of the academic libraries and nearly 70 percent of the public libraries surveyed by

Table 6. Occupational distribution of the male experienced civilian labor force by years of school completed, 1970.

(In percent)

Occupation	Total	4 years of high school or less	1–4 years college	5 yrs. of college or more
Experienced civilian labor force	100	73	20	7
Professional, technical, and kindred workers	100	23	43	34
Librarians	100	14	34	52
Computer specialists	100	26	57	17
Engineers	100	21	56	23
Registered nurses	100	23	40	37
Social scientists	100	9	38	53
Teachers, college and university	100	3	12	85
Teachers, elementary school	100	4	48	48
Teachers, secondary school	100	3	40	57
Vocational and educational counselors	100	7	23	70

SOURCE: U.S. Bureau of the Census.

Table 7. Occupational distribution of the female experienced civilian labor force by years of school completed, 1970

(In percent)

Occupation	Total	4 years of high school or less	1–4 years college	5 years of college or more
Experienced civilian labor force	100	76	20	4
Professional, technical, and kindred workers	100	26	54	20
Librarians	100	20	41	39
Computer specialists	100	29	62	9
Engineers	100	38	47	15
Registered nurses	100	46	48	6
Social scientists	100	15	32	53
Teachers, college and university	100	7	28	65
Teachers, elementary school	100	6	68	26
Teachers, secondary school	100	3	58	39
Vocational and educational counselors	100	9	29	62

SOURCE: U.S. Bureau of the Census.

BLS. Less than 15 percent of the school libraries in the survey require the graduate degree in librarianship. In practice, some school administrators currently give preference in hiring to candidates with the library science master's; others do not.

There has been little change in formal requirements for academic librarians in the past 5 years. Then, as now, the master's degree in librarianship was essential. In practice, many academic libraries give preference to applicants with two master's degrees, and require these for openings above the entry level. The supply of graduate librarians with a master's degree or doctorate in a subject field has increased greatly in the past few years, according to BLS survey data. In part, this reflects the change in the job market for today's college graduates, compared to the situation in the 1960's. More and more graduates, unable to find jobs in their own fields, add the library science master's to their credentials in the expectation of increasing their employability. This trend has created a supply of job applicants with impressive academic credentials.

Public libraries are in the midst of a change; roughly 1 library in 5 surveyed has upgraded the requirements for beginning librarians since 1967 and now requires the library science master's rather than just a bachelor's degree, as before. Some small public libraries require only a high school diploma for beginning librarians, the only libraries in the BLS survey to do so. Public libraries are actively concerned with upgrading staff; however, and it seems likely that by the 1980's, all but the smallest public libraries will require newly hired librarians to have a college degree.

School libraries, too, have been active with respect to upgrading staff, but relatively few have instituted a formal library science master's requirement. Instead, quite a few State authorities have approved changes requiring a greater number of hours of library science. One out of three school libraries surveyed by BLS reported that it currently required entering librarians to have more credit hours of library science than was the case 5 years ago. Some boards of education currently give preference to job applicants with a master's degree in librarianship plus appropriate teaching credentials. At the same time, there are reports from other school systems of preference for candidates with bachelor's degrees (including appropriate teaching credentials and course work for librarianship), inasmuch as the salary schedule for teachers, librarians, and other instructional staff members is related to academic background. In these schools, instructional personnel with a master's degree command a higher salary than those with a bachelor's degree, and therefore are less sought after.

Earnings

Of those librarians employed full year in 1969,[42] one-third of the men earned less than $8,000, compared

[42] Those who worked 50 to 52 weeks in 1969.

Table 8. Earnings distribution of the male experienced civilian labor force who worked 50 to 52 weeks in 1969, by selected occupation

(In percent)

Occupation	Total	To $3,999	$4,000 to $7,999	$8,000 to $11,999	$12,000 to $14,999	$15,000 and above
Experienced civilian labor force	100	11	34	33	10	12
Professional, technical, and kindred workers	100	5	17	32	18	28
Librarians	100	11	22	36	16	15
Computer specialists	100	3	12	41	24	20
Engineers	100	2	6	28	27	37
Registered nurses	100	9	44	27	8	12
Social scientists	100	4	7	25	21	43
Teachers, college and university	100	8	10	25	20	37
Teachers, elementary school	100	6	34	42	12	6
Teachers, secondary school	100	4	27	45	15	9
Vocational and educational counselors	100	6	18	37	21	18

SOURCE: U.S. Bureau of the Census.

Table 9. Earnings distribution of the female experienced civilian labor force who worked 50 to 52 weeks in 1969, by selected occupation

(In percent)

Occupation	Total	To $3,999	$4,000 to $7,999	$8,000 to $11,999	$12,000 to $14,999	$15,000 and above
Experienced civilian labor force	100	37	52	9	1	1
Professional, technical, and kindred workers	100	17	49	27	4	3
Librarians	100	19	40	34	5	2
Computer specialists	100	5	35	42	13	5
Engineers	100	5	24	36	17	18
Registered nurses	100	17	53	27	2	1
Social scientists	100	7	33	34	13	13
Teachers, college and university	100	18	27	34	11	10
Teachers, elementary school	100	13	52	30	4	1
Teachers, secondary school	100	12	49	32	6	1
Vocational and educational counselors	100	13	30	39	12	6

SOURCE: U.S. Bureau of the Census.

to nearly three-fifths of all women librarians. (See tables 8 and 9.)[43] Approximately one-third of all librarians–men and women–had earnings ranging from $8,000 to $11,999.

The tables allow comparison of librarians' earnings with other occupational groups. For the total experienced civilian labor force,[44] about twice the proportion of women as men had earnings of less than $8,000. While over one-half the men made $8,000 or more, only about one woman in 10 did.

As would be expected, among professional and technical workers employed full-year, there is a greater concentration of workers in the higher earnings categories. Four-fifths of all men professional and technical workers earned $8,000 or more; only one woman in three earned that much. Women librarians, while making less than men, do relatively better than women in other professional occupations. This contrasts with the situation for men librarians when their earnings are compared to those of other men professionals. Forty-one percent of the women librarians earned $8,000 or more compared to 34 percent of all women professionals. Only 67 percent of the men librarians earned $8,000 or more compared to 78 percent of all men professionals. Similar comparisons can be drawn between librarians and persons in other occupations and between men and women in the various occupations.

Table 10 presents the actual mean earnings figures of men and women full-year workers. Relatively speaking, women librarians in terms of their earnings fared much better than most women in the labor force, whereas men librarians were only slightly better off than men workers as a whole. The average earnings in 1969 for women librarians working a full year were $7,004. These earnings were about the same as those of other professionals, but they were 42 percent higher than the average for all women in the experienced civilian labor force. The average full-year earnings for men librarians were $10,694. Men librarians, however, made only about four-fifths of the average of all men professional and technical workers. Their average earnings were $2,563 less than those for all men professional workers and only 12 percent more than the average for all men in the experienced civilian labor force.

The male-female earnings ratios in table 10 show that for all professional workers and for the total

[43] The earnings data presented here are based on information from the 1970 decennial census and reflect annual earnings and number of weeks worked in 1969. See tables 11, 16, and 19 in *Census of Population: 1970, Occupational Characteristics*, Subject Reports, Final Report PC (2)-7A (Bureau of the Census, 1973). Apart from the Census, earnings data for the library profession are available from a variety of sources which vary, however, in terms of completeness and comparability. Sources of data include the American Library Association, the Special Libraries Association, the Council on Library Resources, the National Education Association, the Public Personnel Association, and the College Placement Council. Results of an annual survey of starting salaries for graduates of ALA-accredited institutions are published every June in *Library Journal*.

[44] The "experienced civilian labor force" is comprised of all employed and experienced unemployed civilians. Unemployed persons who have worked at any time in the past are classified as "experienced unemployed."

Table 10. Mean full-year earnings in 1969 and male-female earnings ratio of the experienced civilian labor force and selected occupations, by sex

Occupation	Mean earnings (full-year)		Male-female earnings ratio
	Men	Women	
Librarians	$10,694	$ 7,004	1.53:1
Professional, technical, and kindred workers	13,257	7,009	1.89:1
Experienced civilian labor force	9,580	4,944	1.94:1
Computer specialists	11,690	8,873	1.32:1
Engineers	14,037	10,877	1.29:1
Registered nurses	9,374	6,585	1.42:1
Social scientists	15,373	9,797	1.57:1
Teachers, college and university	13,880	8,596	1.61:1
Teachers, elementary school	9,091	7,072	1.29:1
Teachers, secondary school	9,798	7,417	1.32:1
Vocational and educational counselors	11,121	8,579	1.30:1

SOURCE: U.S. Bureau of the Census.

experienced civilian labor force, the mean earnings of men employed full-year approached two times the female average. For men librarians, the figure was only one and one-half times the female average. The lowest male-female full-year earnings ratios among the selected occupations are for engineers and for elementary schoolteachers. Some of the difference in the earnings figures undoubtedly reflects the fact that more women than men are part-time workers. The available data, while providing information by number of weeks worked, do not permit a comparison of full-time, full-year workers.

Overall, the earnings distributions of men and women who were employed in 1969 regardless of the number of weeks worked are fairly similar to those for full-year workers. (See tables 11 and 12.) The most significant change in the distributions is the increase in the proportion of workers in the lowest earnings category and the decrease in the highest category. The proportion of workers earning less than $4,000 is greater for both men and women in the total experienced civilian labor force, in the total professional and technical workers category, and in each of the nine selected professional occupations.

For all men librarians employed in 1969, almost one-third made less than $4,000. Among full-year workers, only 11 percent of men librarians made less than $4,000. A similar situation prevails for women librarians. Of all employed women librarians, 35 percent earned less than $4,000 in 1969, compared to 19 percent of those who worked full-year.

At the opposite end of the spectrum, in the highest earnings category, 10 percent of all men librarians had earnings of $15,000 or more. In comparison, 15 percent employed the full year earned $15,000 or more. For women, the proportion of librarians in the highest earnings category was 2 percent for full-year workers and less than 1 percent for all women librarians regardless of the number of weeks worked.

Data from the 1970 census show that men are more likely to be full-year workers than are women. Seventy-three percent of all men in the experienced civilian labor force worked 50 to 52 weeks in 1969 compared to 53 percent of all women. Fifty-four percent of men librarians were full-year workers; among women, 43 percent. When those workers who were employed more than three-fourths of the year—that is, 40 weeks or more in 1969—are considered, 74 percent of the men librarians are included. For women librarians, 70 percent worked three-fourths of the year. This percent is equal to that for all women in the experienced civilian labor force. For men, however, the 74 percent for librarians is well below the 87 percent for the total experienced civilian male labor force.

Considering the number of weeks worked in terms of other professional occupations, there is a marked similarity in the participation patterns of librarians, teachers, and counselors. All these occupations are important in schools, and the fact that schools generally operate on a 9-month basis accounts for the relatively large amount of part-year employment in these occupations.

Hiring and recruitment experience

Since 1970, the job market for librarians has been tight. For the jobseeker, the current employment situation contrasts unfavorably with that 5 to 10 years ago, when librarians were in extremely short supply.

Librarians, as well as school teachers, university professors, engineers, scientists, and other professional personnel have encountered a tight job market since the beginning of the 1970's. Engineers and scientists, for example, have been affected by cutbacks in R&D, aerospace, and defense spending; teachers and professors

Table 11. Earnings distribution of the male experienced civilian labor force for selected occupations in 1969

(In percent)

Occupation	Total	To $3,999	$4,000 to $7,999	$8,000 to $11,999	$12,000 to $14,999	$15,000 and above
Experienced civilian labor force	100	21	33	28	8	10
Professional, technical and kindred workers	100	11	19	30	16	24
Librarians	100	34	18	26	12	10
Computer specialists	100	7	15	38	22	18
Engineers	100	4	8	28	26	34
Registered nurses	100	20	37	27	8	8
Social scientists	100	8	11	23	19	39
Teachers, college and university	100	18	13	24	17	28
Teachers, elementary school	100	15	34	37	10	4
Teachers, secondary school	100	11	27	41	14	7
Vocational and educational counselors	100	16	16	35	19	14

SOURCE: U.S. Bureau of the Census.

have been affected primarily by supply-demand factors. Practically all of the professions—with the possible exception of some health fields—have had to deal with the sudden shift from a scarcity of appropriately educated personnel to an adequate or oversupply. For many, the job market turnaround was intensified by the general slowdown in business activity and employment. In professional and technical occupations as a group—the chief employer of college graduates—employment leveled off in 1971. At the same time, there was a very sharp increase in the numbers of new college graduates, and the record college graduating classes of 1970 and 1971 encountered serious difficulties in obtaining jobs related to their training. The employment situation for new graduates appears to have eased somewhat since then, but there is little likelihood of a return to the "seller's market" which characterized the 1960 decade.[45]

The shift from a shortage of librarians to an oversupply has created a sense of urgency within the profession. In 1972, at the 91st annual conference of the American Library Association, a groundsweli of discontent from the membership led the ALA Council to adopt several resolutions on the job situation. One resolution, on the more effective dissemination of job information, was proposed at the initiative of the Social Responsibilities Round Table Task Force on Jobs, a group of young librarians directly affected by the dearth of library jobs. The resolution recommended improvements in the conference's traditional placement service, and called upon ALA to work with State library associations to set up a placement service for librarians in each State modeled on California's "hotline" system.[46] Another resolution directed the ALA Office of Library Manpower to collect information on unemployment of librarians and to report its findings to the profession. The survey results were published in March 1973.[47] Based on a mail survey of 123 graduate library education programs (nonaccredited as well as ALA-accredited programs were included in the survey), the ALA Office of Library Manpower reported that 15 percent of the June 1972 library science graduates who sought library jobs had failed to find one as of November 1, 1972. Among the reasons suggested by the schools for the placement difficulties encountered by their graduates were the following: limited geographic mobility; poor economic conditions locally or nationally; personality problems; lack of flexibility concerning specific jobs or salary levels; and scarcity of vacancies, apart from those in affirmative action programs.

[45] The improvement, since 1970, in the employment situation of graduates of ALA-accredited library schools is documented in Frarey's annual survey of library salaries and placements. See the June 15 issue of *Library Journal* for Frarey's annual article describing the job market encountered by the preceding year's library school graduates.

[46] This is a method of publicizing information on current job openings by means of a recorded telephone message which gives the caller a weekly updated list of job vacancies. The system in California is maintained by the California Library Association.

[47] "Employment Information Report," *American Libraries*, March 1973, pp. 157-58.

Table 12. Earnings distribution of the female experienced civilian labor force for selected occupations in 1969

(In percent)

Occupation	Total	To $3,999	$4,000 to $7,999	$8,000 to $11,999	$12,000 to $14,999	$15,000 and above
Experienced civilian labor force	100	55	36	7	1	1
Professional, technical and kindred workers	100	33	40	22	3	2
Librarians	100	35	33	26	5	1
Computer specialists	100	16	36	34	10	4
Engineers	100	12	25	32	15	16
Registered nurses	100	33	45	19	2	1
Social scientists	100	22	30	27	11	10
Teachers, college and university	100	38	24	26	7	5
Teachers, elementary school	100	27	43	26	3	1
Teachers, secondary school	100	27	41	27	4	1
Vocational and educational counselors	100	27	22	33	13	5

SOURCE: U.S. Bureau of the Census.

Several questions in the BLS survey focused on the current job market. Head librarians and library administrators were asked about recent changes in the library manpower supply; about library jobs which are difficult to fill, and those which are not; and about the nature of current manpower problems, if any.

Respondents are almost unanimous in describing the transition from a shortage of library manpower in the middle and late 1960's to an "abundance" or "oversupply," coupled with fewer available jobs, in 1972. Libraries in all parts of the country noted that the supply of library school graduates has grown markedly since the mid-1960's. In addition to the record numbers of new M.L.S. graduates seeking jobs, growing numbers of trained librarians are seeking to re-enter the labor force.

The supply of qualified librarians thus has grown a great deal in just a few years. At the same time, demand has slackened. The abrupt reduction in demand is closely related to budget constraints. At the time of the survey, budget considerations prevented most libraries from doing as much hiring as they had in the past. In many instances, the introduction of new programs and services was being delayed and existing programs were being cut back. A large public library in the Midwest explained, "City budget slashes have resulted in cutbacks and layoffs of library personnel. If the current freeze were lifted, we could hire good people at all levels." Well over half the school libraries surveyed by BLS reported that budget limitations affected their staffing levels. Academic libraries, like school libraries, are particularly hard hit by austerity budgets. In the public libraries, budget was cited more frequently than any other manpower problem.

By and large, the libraries surveyed had few recruitment difficulties. Most reported an abundance of highly qualified applicants. Indeed, many libraries were finding it difficult to handle the large volume of unsolicited applications and inquiries. Beginning librarians, it was found, are easiest to hire and a number of libraries indicated that positions at all levels are easy to fill. A public library system on the West Coast summarized the overall situation as follows: "Generally, there are so few vacancies here—and we have such an abundance of unsolicited applications—that we have ended library school recruiting trips except for the minority search."

Nonetheless, most large libraries are actively seeking a few people with highly specific combinations of training and experience. Black and other minority librarians are sought, as are public librarians qualified to work with the disadvantaged, experienced catalogers, and experienced library administrators. For these positions, supply does not appear to meet current demand.

For most other professional library positions which pose recruitment problems, the difficulty generally lies in unattractive salaries, unsatisfactory working conditions, or undesirable location, rather than scarce supply. School libraries, for example, reported some difficulty hiring media specialists, instructional materials specialists, audiovisual technicians, librarians trained in exceptional education, and systems analysts with backgrounds in education. Some public libraries reported difficulty

recruiting professional staff at any level because of low salaries, undesirable working hours, or remote location. Academic libraries encountered some difficulty filling positions for supervisory librarian and library administrator, head cataloger, and experienced librarian. Some academic libraries also reported difficulty hiring technical assistants and clerks because of low salaries.

Minority issues

Over the past few years, the issue of minorities and women in the library profession has become an increasingly sensitive and controversial one. Protestors at the Library of Congress and Los Angeles County Public Library have denounced hiring and promotion practices as discriminatory.[48] They have called for significant improvements in opportunities for advancement for blacks, Chicanos, American Indians, and other ethnic and racial minority groups. The situation in these libraries is not unlike that in most other occupations: Minority group members are disproportionately concentrated in the lowest paying and least interesting jobs. In most libraries, more minority members work as library clerks than work as librarians, and very few hold top administrative jobs. Examples of past discrimination encountered by blacks in seeking admission to graduate library education, and in seeking employment or advancement, are presented in E. J. Josey's collection of reminiscences by noted black librarians.[49]

Minority employment at the Library of Congress has been surveyed semiannually since May 1971. Data show that despite recent gains, minority members predominate in low-paying jobs and are few in number in top jobs. In November 1973, the date of the most recent LC survey,[50] total full-time employment was 4,147 persons, of whom nearly 43 percent were minority members. Seventy-two percent of the employees in the lowest four pay grades (GS-1 to GS-4) were minority members as were nearly 53 percent in the GS-5 to GS-8 category. In grades GS-9 and above, about 19 percent of LC's employees in November 1973 were minority members. This is the usual entering grade for beginning M.L.S. librarians under Federal civil service regulations. Of approximately 300 persons in the Library's top jobs, commanding salaries of $23,000 to $36,000 in 1973, only 6 percent were minority members.

Limited data on minority employment also are available from a sample survey of public libraries, academic libraries, and State library agencies conducted in 1969 by ALA's Library Administration Division, and from the 1973 BLS Library Manpower Survey. According to ALA survey data, four out of five responding libraries had some minority group members on the staff, but minorities were few in number at the professional level. Only 8 percent of professional staff members in the public libraries surveyed, and 4 percent in the academic libraries and State library agencies, were minority members. Results of the survey are reported in the July-August 1969 issue of *ALA Bulletin.*

BLS survey results in 1973 showed a higher proportion of minority members in professional positions than reported by ALA's 1969 survey. School libraries revealed a particularly high level of minority representation: More than 26 percent of the professionals and 43 percent of the nonprofessionals employed in school libraries were minority members. In public libraries, nearly 13 percent of the professionals and 18 percent of the nonprofessionals were minority members. In the academic libraries surveyed, minority members comprised 9 percent of both professional and nonprofessional staff members. Academic libraries surveyed by BLS thus did not fall into the otherwise consistent pattern of a greater concentration of minority members in nonprofessional jobs than in professional ones.

[48] In 1971, black employees of the Library of Congress (LC) complained to the Librarian of Congress, and to the Civil Service Commission, of alleged discrimination in employment and advancement opportunity at LC. The controversy also was referred to ALA, where it has been under consideration since 1971 by the Staff Committee on Mediation, Arbitration, and Inquiry. LC has since drawn up an Affirmative Action plan (required under the Equal Opportunity Act of 1972), and issues semi-annual reports on its progress in improving employment and advancement opportunities for all members of its staff. Remedial action reportedly has been undertaken in several key areas, including preemployment tests, training and performance agreements, tuition support, and career counseling. Nonetheless, the controversy continues: criticism by some employees of the Affirmative Action plan was reported by the press in October 1973.

The Los Angeles County Public Library case also began in 1971, with a formal complaint to the California Fair Employment Practices Commission (FEPC) by a group of black librarians, who charged the Library with failing to offer equal employment and promotional opportunities to minority groups. The Commission completed its inquiry in 1972, and upheld all charges made by the complainants. In response to FEPC suggestions for remedial action in some areas, the Library subsequently intensified its affirmative action efforts. One outgrowth of these efforts was a cross-complaint of "reverse discrimination," brought before the Los Angeles County Civil Service Commission by another group of librarians. After a lengthy hearing, the Civil Service Commission upheld the Library's practice of utilizing "selective certification" in certain of its appointments of otherwise qualified personnel. See articles in the May 15, 1972 and Apr. 1, 1973 issues of *Library Journal.*

[49] E. J. Josey, ed., *The Black Librarian in America* (Metuchen, New Jersey, The Scarecrow Press, 1970).

[50] "LC Minority Employment," *LC Information Bulletin,* Jan. 18, 1974.

The "minority issue" also exists with respect to sex. As noted earlier, most librarians are women. Many library administrators consider it desirable to increase the number of men on the staff, especially at the professional level, in order to counter the profession's "feminine" image. As a consequence, an effort to recruit men to the profession is underway in the Nation's leading libraries and library schools. BLS survey results indicate that more men than ever before are available for employment as librarians. The increase in the supply of men is attributed to the tight job market for professionals in other fields; to salary improvements in the past few years which have made librarianship financially more attractive to men; and to active recruitment by the libraries themselves for men librarians. School library administrators offer an additional reason: The increasingly important audiovisual area attracts men.

At the same time, the growing strength of the women's movement has drawn attention to the status of women in librarianship. Some see signs of growing inequality of opportunity for women in the profession. Anita R. Schiller of the University of California Library at La Jolla, for example, asserts that women constitute "the disadvantaged majority" in librarianship. She points out that the salaries of women librarians generally tend to be lower than those of men librarians; that the top positions in the Nation's largest libraries are held by men; and that the proportion of women deans of accredited library schools is declining.[51] Evidence such as this, coupled with strong pressure from concerned members, has spurred ALA to step up its activities in support of women's status within the profession. The Social Responsibilities Round Table Task Force on Women is continuing its publicity efforts and is seeking additional information on salaries, training opportunities, promotions, and other indications of the employment status of women librarians. In 1973, the ALA ad hoc Committee on Equal Opportunities in Libraries prepared a policy statement on the equal employment rights of those employed, recruited, or seeking any type of library position. Also in 1973, California librarians secured official ALA support, by means of a resolution adopted at the 92d annual conference, for an ongoing legislative effort to correct discriminatory pay practices which adversely affect women in University of California libraries.[52]

[51] Anita R. Schiller, "The Disadvantaged Majority," *American Libraries*, April 1970, pp. 345-49.

[52] The situation in the University of California libraries is copiously documented in the 1972 Report on the Status of Women Employed in the Library of the University of California, Berkeley. The report was compiled by women staff members, represented by the Affirmative Action Program for Women Committee (AAPWC).

With the enactment of the Equal Employment Opportunity Act of 1972, the Federal Government brought the force of law to bear to end discrimination in employment.[53] Libraries and other educational and governmental institutions, which had been exempted from the requirements of the Civil Rights Act of 1964, now are required to abide by provisions of that Act which forbid discrimination in employment practices because of race, color, religion, sex, or national origin. For years, many libraries have sought to assure equal opportunity in hiring, placement, promotion, salaries, and other employment practices. They have done so for reasons of conscience, good public relations, and good labor-management relations. Now, however, such efforts are required by law.

The Equal Employment Opportunity Commission (EEOC) receives complaints of job discrimination and has the power to bring civil actions against employers who discriminate. These may result in substantial back pay awards, as was the case in several court orders announced in 1973, requiring employers found guilty of discriminatory employment practices to award back pay totalling several million dollars. Further, affirmative action plans are required of all institutions with Federal contracts or subcontracts.[54] This requirement is especially important for academic libraries, since many colleges and universities have Federal contracts. Affirmative action requires the employer to take steps to make equal employment opportunity a reality. It includes establishing goals and timetables for hiring minority personnel. Additionally, it includes designing a plan to meet those goals and timetables through methods which usually include aggressive recruiting of minority personnel and specialized training.

EEOC guidelines for implementation of the Equal Employment Opportunity Act stress the importance of minority recruiting, and warn that the first opportunity

[53] On Mar. 24, 1972, the President signed Public Law 92-261, amending Title VII of the Civil Rights Act of 1964. The act, with its amendment, is commonly called the Equal Employment Opportunity Act of 1972. By amending the 1964 act, Congress extended its coverage to educational institutions, governments, governmental agencies, and political subdivisions that have 15 employees or more for each working day of 20 or more calendar weeks in the current or preceding year. Public libraries with fewer than 15 employees may be covered nonetheless if they are not distinct from the municipal government.

[54] Pursuant to Amended Executive Order 11246, institutions with Federal contracts or subcontracts are required to present evidence of nondiscrimination in employment practices. To help insure against discrimination, the Department of Labor Office of Federal Contract Compliance in 1971 issued Revised Order No. 4, requiring institutions to submit affirmative action plans within 120 days of the commencement of the contract. Revised Order No. 4 illustrates the elements of such a plan.

for discrimination is in recruitment procedure.[55] Survey data for 1973 show a great deal of aggressive minority recruiting, most notably in large public and academic libraries.

Asked whether the library had a minority recruitment program, about a third of the public libraries and half of the academic libraries in the survey affirmed that they did.

Recruitment methods cited most frequently by public and academic library administrators were:

1. advertising job openings in professional journals,
2. listing job openings with the National Registry of Librarians,
3. recruiting at the ALA convention, and
4. listing job openings with local employment agencies.

In addition, about half of the libraries with minority recruitment programs sought to reach potential minority job candidates by:

1. advertising in minority newspapers and in school and underground publications,
2. listing job openings with the Urban League and other minority-oriented organizations, and
3. recruiting at library schools with a predominantly black student body.

A substantial number of large academic and public libraries mentioned campus recruitment trips to the School of Library Science at Atlanta University, a school which serves as an employment clearinghouse for black librarians. Atlanta reportedly has tailored its program in order to prepare its library science graduates to work with the disadvantaged in urban public libraries. In addition to library education, the course deals with drug abuse, legal aid services, consumer education, Right-to-Read efforts, and vocational guidance.[56]

Libraries were asked by BLS interviewers what difficulties they encountered in minority recruitment. The shortage of qualified minority applicants, cited repeatedly, appears to be the chief constraint on increasing the number of blacks and other minorities in professional positions in libraries.

The shortage of minority members with appropriate credentials has led some libraries to consider waiving their usual requirements. One public library surveyed reported that although it ordinarily requires a master's degree in librarianship from an ALA-accredited school for beginning librarians, it would waive the master's requirement for a promising black applicant with only a bachelor's degree in librarianship. Another public library reported that although the position it was trying to fill required experience, a black candidate straight out of library school would be considered. Still other public libraries pointed out that civil service regulations or union contracts made it impossible to relax hiring requirements. A number of libraries find it difficult to recruit minorities because very few minority members live in the particular area, or would want to move there. Few libraries, moreover, have funds to defray the cost of relocating a minority librarian recruited in another part of the country. Many librarians have some difficulty justifying the cost of long-distance recruitment trips themselves.

The shortage of qualified minority applicants signifies, in turn, a scarcity of minority students in library schools. The ALA has urged library educators to take steps to attract minorities to the profession. Its Preconference on the Recruitment of Minorities, held in Dallas in 1971, recommended ". . . that all library schools admit qualified minority applicants on a preferential basis and seek to provide financial aid for those who are economically handicapped."[57] The Preconference recommended a relaxation of library school admission standards in order to enroll promising minority candidates.

In line with yet another Preconference recommendation, several libraries and library schools have launched cooperative programs designed to attract minority students, to provide them with financial support while they are in library school, and to offer suitable job opportunities upon graduation. One such program is under way in New York, co-sponsored by Columbia University Libraries and the Columbia University School of Library Service. It offers college graduates from minority groups a work-study program and tuition waiver. Special efforts also are being made to train minority and disadvantaged students in library science at the doctoral level. In 1972, a consortium of the Big Ten universities and the University of Chicago started a 4-year program which will offer the Ph. D. in library science to black, Chicano, American Indian, Puerto Rican, and Appalachian white librarians.[58]

In 1970, the Federal Government took a strong position on encouraging minority representation in library education, by redirecting funds awarded under Title II-B of the Higher Education Act (library training and institute program) to give priority to training

[55] The ALA has drawn up two articles on this subject: "Equal Employment Opportunity-Affirmative Action Plans for Libraries," *American Libraries*, October 1971, pp. 977-83, and "LAD Report-EEOC Guidelines for Preventing Discriminatory Employment Practices," *American Libraries*, December 1972, pp. 1207-09.

[56] Reported in Thomas Childers and Kathlyn Adams, "Recruitment of Minorities," *American Libraries*, June 1972, pp. 613-21.

[57] Op. cit., p. 617.

[58] Reported in *American Libraries*, October 1972, p. 943.

disadvantaged persons and retraining library personnel to work in disadvantaged communities.[59]

Despite these efforts, minorities make up a very small proportion of total library school enrollment. Available data suggest that minorities comprise no more than 3 to 5 percent of enrollment in accredited library programs at all levels. Total full-time and part-time enrollment in 1972 is estimated at roughly 10,000, of which only 300 to 500 were minority members.[60] ALA survey data revealed a marked increase in the number of minorities in accredited library education programs between 1969 and 1972, but the numbers involved are quite small, compared to total enrollment. The 1972 survey by ALA's Library Education Division and Office for Recruitment shows 310 blacks, 17 Mexican Americans, and 1 Puerto Rican enrolled in the spring of 1972, compared to 156 blacks, 9 Mexican Americans, and 9 Puerto Ricans in 1969.[61]

Minority recruitment efforts by graduate library schools are made considerably more difficult by the relatively low pay level in librarianship, compared to other professions. An earlier section has shown that, as a rule, salaries for librarians are not competitive with other professions which have comparable educational requirements.

[59] See Frank A. Stevens and Frances Yvonne Hicks, "Higher Education Act of 1965, Title II-B: Library Education," *The Bowker Annual of Library and Book Trade Information 1972* (New York, R. R. Bowker Co., 1972).

[60] The estimate of 10,000 students in accredited library education programs is based on enrollment data for 1969 and 1970 which show:

	1969	*1970*
Undergraduate	1,367	1,192
Master's	8,542	8,933
Advanced: Specialists	176	150
Advanced: Doctoral	324	344

See Margaret E. Monroe, "U.S. Graduate Library Education Programs," pp. 20-6 in Frank L. Schick and D. Kathryn Weintraub, *North American Library Education Directory and Statistics 1969-1971* (Chicago, American Library Association, 1972).

[61] Reported in *American Libraries*, October 1972, p. 942.

Chapter 2. Projections of Manpower Demand and Supply

Factors affecting growth

Requirements for library manpower are determined by the interplay of a number of demographic, economic, and social factors. Among the most important are trends in population and enrollments; public support for new and improved library services; the level of governmental and other spending for library programs; developments in library automation and networking; and changes in library staffing patterns.

Population trends. Public library staffing needs are directly affected by population growth and by shifts in population patterns. The U.S. population was 181 million in 1960 and 205 million in 1970. Total population is expected to reach 224 million by 1980 and 236 million by 1985.[62]

Changes in the geographic, racial, age, and income distribution of the population all have implications for library service. Perhaps the most important trend, from the viewpoint of community services, has been the massive post-World War II population movement from rural and small town areas to metropolitan areas; from cities to suburbs; and from the South and Middle West to Florida, the South West, and the Pacific Coast. The impact of rapid population growth on schools, libraries, and other community services has been heaviest in the suburbs surrounding major metropolitan areas. The movement away from core cities to outlying suburbs has had generally adverse consequences for the cities, and has created problems of unplanned growth for the suburbs.

Administrators in all of the big city public library systems surveyed by BLS appear to grasp the implications for library service and staffing patterns of changing population patterns. In one of the most clearly unanimous findings of the study, urban public libraries indicated that they are committed to modifying traditional library services as much as necessary to reach the disadvantaged groups which comprise such a large—and growing—share of their clientele.

Enrollment trends. Student enrollment is an important determinant of staffing needs in school libraries and in academic libraries. At the elementary-secondary level, the 1970's present the prospect of a decline in the number of children and teenagers in school. The current period of dwindling enrollments and diminished staff needs after nearly 20 years of expansion requires a considerable adjustment on the part of the U.S. educational establishment. Chart 5 highlights actual and projected elementary-secondary enrollment trends for the 25-year period from 1960 to 1985.[63] Total enrollments show almost no growth between 1965 and 1980. However, a sharp increase is projected between 1980 and 1985, mostly at the elementary level, as the children born to the post-World War II "baby boom" generation begin to reach school age.

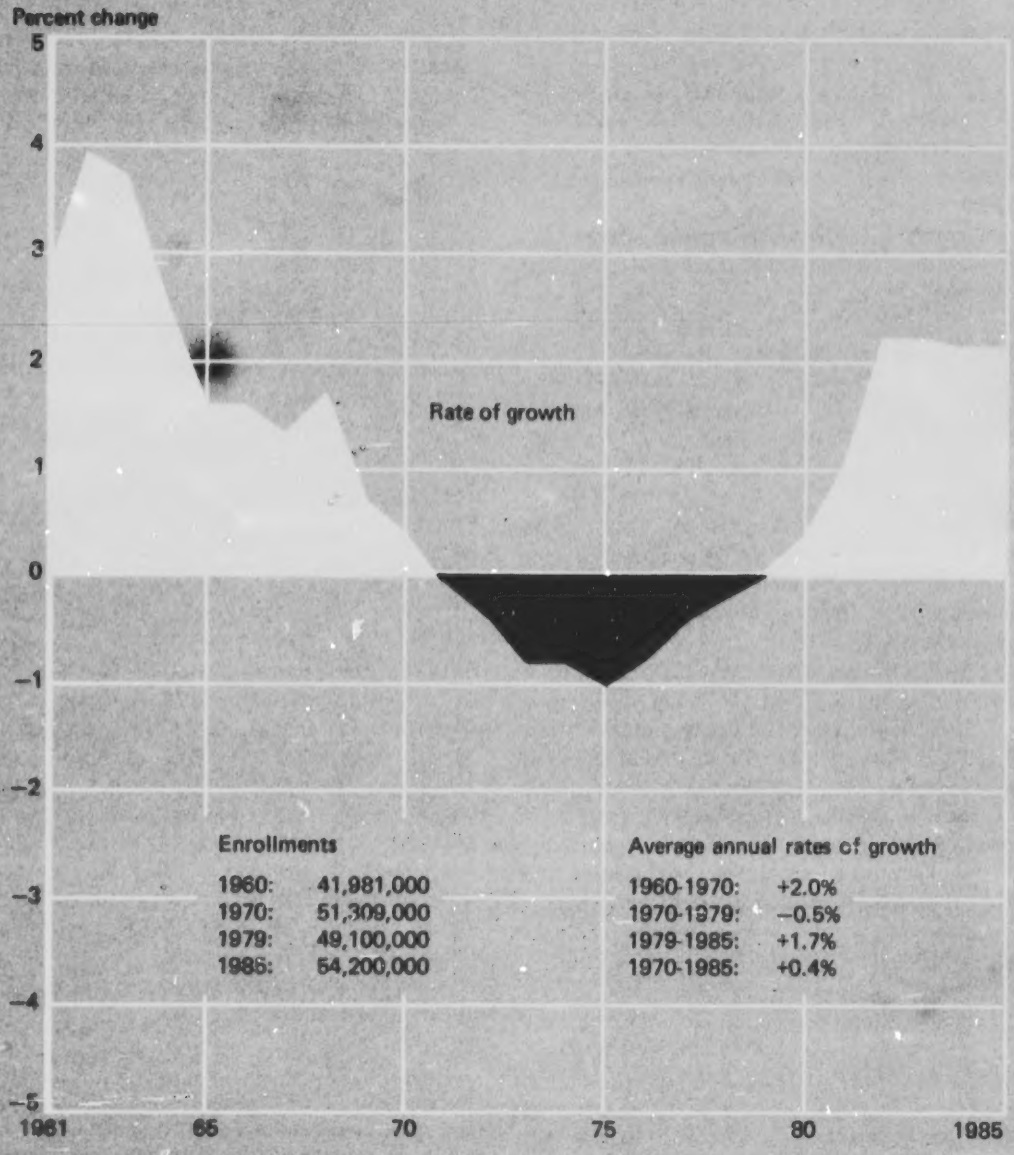
Classroom teachers appear to bear the brunt of reduced job opportunities due to lower elementary-secondary enrollments. For the past several years, demand for school librarians, school psychologists, guidance counselors and other specialized categories of instructional personnel has remained fairly strong, despite reductions in enrollments. Between 1965 and 1970, when elementary-secondary enrollment growth was coming to a halt, public school enrollment rose at an average annual rate of about 1.7 percent per year. Employment of classroom teachers rose 3.8 percent per year in this period, but employment of public school librarians rose much faster—more than 7.9 percent per year.

[62] Based on series "E" projections of the U.S. Bureau of the Census. See *Current Population Reports*, Series P-25, No. 493 (Bureau of the Census, 1972). Series E is one of several alternative population projections, each based on a different assumption as to future fertility levels. Series E implies an ultimate completed fertility rate of 2,100; that is, 1,000 women would have, on average, 2,100 births throughout their childbearing period.

[63] Based on estimated and projected enrollment data published in *Projections of Educational Statistics to 1981-82*, 1972 edition (Office of Education, 1973, OE 73-11105), and unpublished projections to 1984-85 developed for BLS by the Office of Education in January 1973. For a discussion of the likelihood of a downward revision of these elementary and secondary enrollment projections due to lower fertility trends, see "Comment on assumptions" in appendix A.

Chart 5

Annual rate of change in elementary-secondary school enrollments, 1960-71 and projected 1972-85



Source: National Center for Educational Statistics

The very rapid growth since 1965 in the number of school librarians—all the more remarkable because it occurred in a period of decelerating enrollment growth—is chiefly attributable to pent-up demand for school library services. Following the 1965 enactment of the Elementary and Secondary Education Act, funds became available to meet this demand on a nationwide scale. The massive infusion of Federal funds specifically earmarked for instructional materials and for school library resources stimulated the expansion of school library services, led to the establishment of libraries in schools which previously had none, and resulted in the hiring of professional librarians and audiovisual specialists. From 1965 to 1970, when expenditures under ESEA Title II totaled nearly $341 million,[64] the number of full-time equivalent librarians in the Nation's public schools rose to 42,500 from approximately 29,000.[65]

How will the current trend in elementary-secondary enrollments affect employment opportunities for school librarians? Indications are that demand for librarians will continue to rise, despite the anticipated decline in enrollments during the 1970's. As noted above, employment of school librarians surged upward in the late 1960's, as funds became available to satisfy pent-up demand, and rapid employment growth occurred even though enrollment growth was slowing. Especially at the secondary level, much of the demand for adequate school library programs and personnel appears to have been released, and as a result, enrollment levels are likely to have a greater impact than before on school library manpower needs. Employment of school library personnel accordingly is expected to rise more rapidly between 1980 and 1985 than in the 1970's.

Institutions of higher education are expected to feel the effects of the current decline in elementary-secondary enrollments by the early 1980's. More immediately, for the remainder of the 1970's, college level enrollments are expected to continue to rise, but much less rapidly than before.[66] The extraordinary rise in college enrollments of the 1960 decade is not likely to continue. It should be noted that changes in college level enrollments are much more difficult to predict than changes in elementary-secondary enrollments, since the latter are predominantly influenced by population trends. Enrollment trends at the college level are more speculative, since the proportion of the college-age population actually enrolled in school (currently about 30 percent) fluctuates in response to economic, political, and social factors. Among the factors which affect young people's educational decisions are the military draft situation, the expansion of junior and community college facilities, the availability of scholarships and student loans, and changes in the job market for college graduates. To further complicate the matter, a growing number of older persons are returning to college, or entering for the first time.

The slow growth of college-level enrollments in the 1970's, followed by a drop in the 1980's, is expected to dampen demand for academic library staff.

The results of a recent study prepared for the Council on Library Resources[67]—show that while size of library staff is strongly associated with an academic institution's enrollment class size, several other variables are more sensitive measures of staff size. The authors found that in academic libraries, staff size is significantly associated with size of collection, educational expenditures per student, and type (public or private) and size of institution. The unavailability of long-range projections for collection size and per student educational expenditures made it necessary, in developing the BLS projections for 1980 and 1985, to rely primarily on projected enrollment—even though this provides a cruder measure of staff size variance.

New and improved services. Library employment is sensitive to public demand for new library services and for improvements or modifications in existing services. Both employment levels and staffing patterns are affected by changes in the range of services the library offers. Such changes most often are brought about by

[64] Office of Education expenditures for Title II of the Elementary and Secondary Education Act have been as follows:

Fiscal year:	
1966	$97,347,441
1967	99,627,150
1968	98,452,733
1969	42,200,706
1970	37,344,773
1971	70,625,253
1972	79,477,964
1973	84,000,000

[65] *Statistics of State School Systems 1965-66* (Office of Education, 1968, OE-20020-66), p. 28 and *Statistics of Local Public School Systems, Fall 1970, Staff* (Office of Education, 1972, OE-73-11415), p. 7.

[66] Based on estimated and projected enrollment data published in *Projections of Educational Statistics to 1981-82*, 1972 edition (Office of Education, 1973, OE-73-11105) and unpublished projections to 1984-85 developed for the BLS by the Office of Education in January 1973. For a discussion of the likelihood of a downward revision of these higher enrollment projections due to recent trends in college attendance, see "Comment on assumptions" in appendix A.

[67] William J. Baumol and Matityahu Marcus, *Economics of Academic Libraries* (Washington, D.C., American Council on Education, 1973).

shifts in the library's role within the school, college, community or parent organization. In most cases, the range of library services offered, and the budget support these services receive, reflect current tax payer priorities in the competition for the tax dollar.

A number of public libraries surveyed by BLS view introduction of new services as a leading factor in future employment growth. Most new and innovative public library services come under the heading of "community outreach"—modifying traditional library services to meet the needs of a particular segment of the community.

Current community outreach efforts by urban public libraries are part of a larger effort on the part of the cities to deal with acute social and economic problems. Community outreach includes programs for a number of special groups within the community: Children, teenagers, the elderly, the handicapped and minorities, for example. Community outreach sometimes involves joint action by the public library with other city or county agencies and programs—those dealing with adult education, for example, or with literacy, health, welfare, or employment. Outreach also may mean storefront exhibits, film festivals, craft programs, photography displays, storytelling in Spanish, puppet shows, daycare centers, thrift shops, senior citizen activities, services to migrants, and cooperative programs with Head Start, the Neighborhood Youth Corps, or the Job Corps.

School library services have undergone a transformation over the past 10 to 15 years. Fundamental changes have taken place in library collections, personnel, and programs, and in nearly all secondary schools (and many elementary schools as well), the library now plays an active role in the instructional process. This was not the case a decade or so ago. The shift in the library's role and the broadening of its activities reflect developments in teaching methods and also the availability of a variety of instructional materials. The successful introduction of individualized instruction and self-directed learning created a pressing need for curriculum reform, for organizational changes, and for additional instructional materials for use both inside and outside the classroom. The use of innovative teaching methods and instructional materials has contributed to the broadening of the library's role in elementary and secondary education. Of almost equal importance, however, is the greatly increased availability of funds, in particular, ESEA Title II funds specifically for instructional materials and for school library resources.

Recent developments in teaching methods and technologies are likely to continue through 1985, and beyond. According to a report submitted to the Commission on Population Growth and the American Future, the American educational system is expected to continue moving in the direction of individualized instruction and greater diversity of teaching methods over the next 30 years.[68] This forecast is based on consultation with leading educators and public decision makers. It implies a continued strong demand for counselors, psychologists, instructional materials and curriculum specialists, librarians, and other personnel involved in the effort to tailor each child's educational program to his own abilities, interests, and goals.

Certain other developments in education are likely to influence future demand for school librarians and media specialists. First is the anticipated expansion of schooling at the prekindergarten level. A growing proportion of children are likely to begin formal schooling as early as age three. In elementary schools, the report to the Population Commission envisages less rigid scheduling of classes, and freer, more random access to literary, audiovisual, graphic, and mechanical materials. Instructional television and computer-assisted instruction also is foreseen. In secondary schools as well, the report anticipates extensive use of literary, audiovisual, mechanical, electronic, and graphic materials.

Government spending. Federal support for library programs is a fairly recent development. The first major piece of Federal library legislation was the 1956 Library Services Act, but spending levels under this and subsequent legislation peaked only in the mid- to late 1960's. Over the past two decades, Federal expenditures for library construction, materials, services, and professional development have exceeded $1 billion. The future of Federal library legislation was clouded in 1974, but it appeared unlikely that spending levels in the remainder of the 1970 decade would return to earlier heights.

The massive infusion of money has had a significant impact on library services and facilities throughout the country, and has stimulated improvements and innovations in library programs in a variety of ways. Not least important is the effect upon library staff. Employment of librarians and library support personnel has grown at a rapid rate since the beginning of the 1960's, and the level of professionalism has clearly risen. Much of this improvement in the quantity and quality of library personnel can be associated with the release of Federal funds.

More than $35 million in Federal funds has gone toward direct support for the advanced training of librarians and media specialists, enabling them to improve their skills and techniques and thus enhance the

[68] Elliott R. Morss and Ritchie H. Reed, editors, *Economic Aspects of Population Change*, Vol. II of Commission research reports (Washington, Commission on Population Growth and the American Future, 1972).

services of their libraries. This assistance has been available to the profession for nearly a decade, under the Higher Education Act of 1965, Title II-Part B, as amended, which supports training by means of fellowships for individuals enrolled in graduate library education programs, and sponsorship of special training institutes. Beginning in the late 1960's, almost exclusive emphasis was placed on advanced training and continuing education for librarians who serve the disadvantaged. In 1973 alone, more than 200 minority and disadvantaged persons entered the profession as specialists in meeting the library needs of underprivileged groups as a result of federally funded institutes for library training.

The impact of Federal funds upon library employment is particularly evident in the Nation's schools. Under the Elementary and Secondary Education Act of 1965, Title II, as amended, substantial Federal funds have been expended for school library support over a short period of time. Since 1966, over $600 million in ESEA Title II funds have been made available to public and nonpublic schools alike for the purchase of printed and audiovisual school library materials. ESEA Title II is the principal source of Federal aid to school libraries, but not the only one. Additional funds have come, for example, from ESEA Title I, which provides assistance to meet the educational needs of deprived children; and from various other enactments. The availability of large amounts of money for the purchase of library materials is believed to have been a decisive factor in the rapid growth in employment of school librarians since 1965.

The level of Federal support for school libraries will continue to be a critical growth factor in the opinion of many observers. Expansion of employment opportunities for school librarians in the 1970's—when enrollments are falling—will depend to a large extent on public sentiment concerning the level of financial support for education in general, and for school library programs in particular. On the Federal level, although the future of ESEA is uncertain, a continued Federal Government role in the funding of elementary and secondary education is likely. Both the level and the form of future Federal aid to education will have a direct impact on school librarians.

The question of school financing is not within the scope of this study. Nonetheless, a few observations are in order. On the basis of recent experience with ESEA, a strong case can be made for categorical support of school library programs. In many schools, the availability of funds specifically earmarked for books, periodicals, cassettes, filmstrips, and similar instructional materials served as the catalyst for expanding and improving school library programs, and for hiring specially trained personnel. Some experts in the field of school librarianship believe that without the "seed money" made available by Title II of ESEA, many of the sophisticated, well-equipped libraries in the Nation's schools would not exist. In the opinion of Geraldine Clark, assistant director for the Bureau of Libraries of the New York City Board of Education, ESEA has served as a "pump-primer." [69]

Writing in early 1973, Clark reported widespread concern that without Federal aid, school library services will suffer:

> Most school librarians with whom I have talked recently believe that without categorical Federal aid and its prescription for maintaining local effort, the current level of local support for school libraries will be reduced . . .

BLS interviewers reported a similar mood of pessimism on the part of school librarians in many parts of the country.

Federal support of academic libraries is a major development of the past decade or so. Beginning with the National Defense Education Act of 1958, a number of Federal programs have stimulated the growth of college and university collections, helped provide buildings to house them, and provided assistance for the training of academic library staff.

However, the Federal legislation with the broadest impact upon college and university libraries undoubtedly has been Title II of the Higher Education Act of 1965. HEA Title II has influenced academic libraries both directly and indirectly. Directly, through Part A of Title II, which provides funds to colleges and universities for purchase of library materials. The growth of academic library collections has been stimulated considerably by these provisions, under which even the smallest college library can receive as much as $5,000 for acquisitions as a basic grant, and larger libraries as much as 20 times that figure in supplementary and special-purpose grants. Parts B and C of HEA Title II benefit the entire library community, not just academic libraries. Part B supports the professional training of librarians and other library personnel and also funds research and demonstrations. Part C, which supports certain Library of Congress acquisitions and cataloging activities, has had an impact on bibliographic and processing procedures in libraries throughout the country. Part C of HEA Title II gives the Librarian of Congress the responsibility of acquiring, insofar as possible, all library materials currently published throughout the world which are of value to scholarship, of cataloging these materials promptly, and of distributing bibliographic information through printed

[69] Geraldine Clark, "Secondary School Libraries," *School Library Journal*, March 1973, p. 76-77.

cards and other means, including machine-readable tapes. The considerable impact upon library staff needs of LC-supported innovations in cataloging and technical processing is described elsewhere in this report. (See section on Staffing Patterns.)

Other legislation has stimulated academic library development as well. Federal programs in the late 1950's and early 1960's provided funds for foreign area studies in U.S. universities, including substantial support for the purchase of books, documents, and other research materials. This resulted in an enormous broadening of U.S. university collections. Academic library staffs have of necessity become more specialized; in order to handle vastly increased collections in unfamiliar areas, large university libraries have added language and subject specialists, government documents librarians, and scholarly bibliographers.

Library buildings were among the principal campus beneficiaries of the Higher Education Facilities Act from its passage in 1963 to 1969, when appropriations were cut back. A large proportion of the Nation's college and university libraries have been substantially rehoused since World War II, Federal funds having provided much of the stimulus for new construction. The construction of new buildings has given academic librarians an opportunity to incorporate sophisticated audiovisual collections and services into the building design. The close link between contemporary library design and media-based library services is nowhere more evident than in the junior colleges. The use of instructional technology and audiovisual learning materials has flourished in this setting, and newly built junior college libraries usually serve as multipurpose, multimedia learning centers.

Of all the Federal programs which provide financial support for libraries, Federal aid to public libraries has the longest history. Initiated in 1956 with enactment of the Library Services Act, the program originally was designed to establish public library service in rural areas. The scope of the law has since been expanded. Known since 1964 as the Library Services and Construction Act (LSCA) the program now provides money for urban as well as rural library service, for construction and modernization of public library buildings, for interlibrary cooperation, and for services to special groups—including the handicapped and the institutionalized.

Under Title I of LSCA, Federal money has been spent on demonstration projects to help communities meet their information needs more effectively and more imaginatively. Federal funds provided by LSCA also have contributed to the establishment and strengthening of library systems, whose many cooperative activities include the cooperative buying and processing of library materials, as well as the creation and shared use of union catalogs. Some State library agencies have used LSCA Title I funds for education and personnel development. Particular emphasis is given to recruiting and training "community outreach" personnel who can serve as a liaison between the public library and the "disadvantaged"—individuals or groups within a community who, for geographic, economic, cultural, linguistic, or other reasons, exist outside the mainstream of community life. Title II of LSCA supports public library construction, and requires matching State and local funds.

By 1973, Federal funds had helped to build more than 1,800 public libraries. Some $160 million in LSCA Title II funds had been matched by about $400 million in State and local funds. Program activities under Title III include establishment or expansion of processing centers using modern technology and equipment; and coordination of all library acquisitions within a region. Funds available under LSCA have had a significant impact on the quality of library collections and personnel available to serve institutional populations—inmates, patients, or residents of penal institutions, reformatories, residential training schools, orphanages, and hospitals. "Capable, enthusiastic, service-minded" people reportedly are entering the field of institutional librarianship.[70] This can be attributed in large part, to the availability of financial support for varied and creative institutional library programs and services.

Library automation and networking. By the early 1970's, the emergence of the computer as an aid to library operations had affected work flows and staffing needs in perhaps 200 of the Nation's largest libraries—among them, academic libraries, public libraries, and special libraries.[71] Most libraries which have operational systems use the computer for acquisitions, cataloging, and circulation control. A somewhat smaller number of

[70] Elizabeth H. Hughey, "The Library Services and Construction Act During Fiscal Year 1971," pp. 214-19 in *The Bowker Annual of Library and Book Trade Information*, 17th ed., New York, R.R. Bowker Co., 1972.

[71] According to a 1973 report to the ALA's Information Science and Automation Division (ISAD), at least 25 or 30 major academic and public libraries had well-tested working systems in operation at that time, and perhaps as many as 100 or more had significant operations under way. ("Report of the Committee on Research Topics, *Journal of Library Automation*, September 1973, p. 133.) An earlier report on library automation activity in the Federal Government showed that about 60 Federal libraries had operational systems—mostly in cataloging or serials control—although more than 130 Federal libraries were involved in automation activity. (Peter Simmons, "Library Automation," pp. 167-201 in Carlos A. Cuadra, ed., *Annual Review of Information Science and Technology*, Vol. 8, Washington, D.C: American Society for Information Science, 1973).

libraries have automated their indexing systems, and fewer still are active in the glamorous, but essentially experimental, area of automated information storage and retrieval. Special libraries are in the forefront in this area.

Automation of library operations necessitates a change in work assignments, and usually entails some departmental reorganization as well. Some libraries surveyed by BLS reported a reduction in staff requirements as a result of the automation of acquisitions and cataloging procedures. One large academic library reported a reduction in the need for professional staff in technical processing; another reported that computerization of acquisitions and cataloging had reduced the number of typists on the staff.

The manpower implications of library automation appear to be chiefly qualitative, not quantitative. Baumol and Marcus, among others, point out that computers are not a substitute for professional library personnel.[72] Rather, machines accomplish enormous amounts of the nonprofessional, predominantly clerical, tasks which constitute such a large part of the daily work in any library. No decline in the demand for skilled professionals as a result of automation is foreseen by most authorities. Moreover, because of the relatively limited penetration of computers in libraries, reduction in nonprofessional staff requirements due to automation is likely to be moderate. Automation is feasible only in fairly large libraries, and there is little prospect, over the next decade or two, the medium-sized and small libraries will move to automate their operations. Few such libraries can afford the expense of custom-made software; manual methods are cheaper for them.

For these libraries, the most feasible method of benefiting from advances in library automation and technology appears to lie in cooperative efforts, by means of systems or networks of library computer-users; or in subscription to commercial services. Among the most active of the computer-based networks is the Ohio College Library Center (OCLC) system, which offers its members on-line access to both local input and MARC-derived cataloging information,[73] online location of materials for interlibrary loan, and on-line training sessions for catalogers. Serial check-in and circulation subsystems are scheduled to be added to the OCLC system, although cataloging will continue to be the major thrust of the network's effort.

Although automation appears to have relatively little effect on the number of library workers needed, it creates a demand for particular skills at both the professional and nonprofessional levels. Computer personnel are required—among them, systems analysts, programmers, and various categories of electronic data processing (EDP) personnel—keypunch operators, data typists, card-to-tape converter operators, console operators, and others. Knowledge of computer science in itself is generally not sufficient, however; some familiarity with librarianship—or expertise in library procedures—also is rquired. Some of the specific skills necessary for library automation personnel are noted later, in the discussion of computer personnel as a "new and emerging" library occupation.

Staffing patterns. Manpower requirements in library settings have been affected by the establishment of differentiated staffing patterns, which use the services of individuals with several different levels of training and skill. This has led, most importantly, to the increased use of personnel below the professional level: library technical assistants, clerks, and others. A number of studies attest to a downward trend in the ratio of professional to nonprofessional library personnel. According to data cited by Baumol and Marcus, for example, the size of the professional staff in college and university libraries declined relative to the number of nonprofessionals at a rate of about 1.5 percent per year during the two decades from 1950 to 1969. The authors attribute this decline, at least in part, to "widespread efforts on the part of library administrators to distinguish between professional and nonprofessional activities and to use the services of the professional staff as far as possible entirely for professional work."[74] Chiefly on the basis of Office of Education data, Bolino reports that the increasing use of nonprofessionals "is evident in all kinds of libraries."[75] Census data show that between 1960 and 1970, the ratio of professionals to nonprofessionals fell, on average, from approximately 3:1 to 1:1. As noted earlier, nonprofessionals are used most extensively in public libraries and in academic libraries, probably

[72] Baumol and Marcus, op. cit., p. 42.

[73] MARC is the acronym for Machine-Readable Cataloging, a major endeavor by the Library of Congress in the field of automated technical processing. The MARC program, initially undertaken in the late 1960's on an experimental basis, constitutes an effort to develop and distribute cataloging data in machine-readable form. The data base currently includes all English language material cataloged by the Library of Congress since 1968, and since October 1971, all records produced by the Cataloging-in-Publication program. The MARC data base is used by more than 200 libraries, predominantly large academic and public libraries.

[74] Baumol and Marcus, op. cit., p. 73.

[75] August C. Bolino, *Supply and Demand Analysis of Manpower Trends in the Library and Information Field* (Washington, D.C., 1969). Unpublished report submitted to the Office of Education.

because these tend to be larger institutions, with a greater need for differentiated staffing patterns.

Most authorities agree that recent trends in library staffing are likely to continue. The steadily growing use of nonprofessionals has clear manpower implications: Employment of library attendants and assistants is expected to grow much more rapidly, through 1985, than employment of professional librarians.

Estimates of demand in 1980 and 1985

Demand for librarians and library attendants and assistants over the 1970-85 period, in addition to the growth factors discussed in the previous section, will be influenced by projected patterns of growth in (1) the economy as a whole, in general, and (2) the educational services industry, in particular. The analysis of this combination of growth factors points to a marked slowdown in employment growth for library occupations. However, rates of employment growth will vary over the period as well as by type of library.

The basic set of projections of library manpower requirements to 1980 and 1985 reflects the BLS model of the economy in 1985.[76] As such, they are influenced by the economic, political, and technological assumptions—some explicit, but others, even more numerous, implicit—underlying the Bureau's model.[77]

- Fiscal, monetary, and manpower training and educational programs are expected to achieve a satisfactory balance between relatively low unemployment (4 percent) and relative price stability (3 percent annual increase in the implicit price deflator for gross national product), permitting achievement of the long-term economic growth rate.
- The institutional framework of the American economy is not expected to change radically.
- Economic, social, technological, and scientific trends are expected to continue, including values placed on work, education, income, and leisure.

It is important to note the assumptions related to governmental roles: All levels of government will expand efforts to meet a variety of domestic needs, but State and local government activity will continue to grow relative to Federal activity. Federal, State, and local budgets will be close to balance by 1980 and 1985. Among the specific assumptions are that:

> Increased Federal revenue resulting from growth in the economy will be used largely to expand Federal grants to State and local governments relative to other categories of expenditures although at a diminishing rate. The substantial increase in Federal grants will permit State and local governments to slow the rate of increase in their taxes.

The possible effects upon libraries of this latter broad assumption is unclear. It is not known, at this time, for example, whether Federal support to school and academic libraries will be direct—a continuation of categorical programs included in the Elementary and Secondary Education Act and the Higher Education Act—or indirect, as in the case of general or educational revenue sharing. As nonteaching supportive services, such as libraries, reach a point of adequacy in elementary and secondary schools and colleges and universities, these services may find their budgets increasingly tied to the same factors—principally changes in levels of enrollments—governing support, whether direct or indirect, to their respective parent institutions. Because of the uncertainties involved, an alternative set of projections for school and academic librarians was developed. These estimates, which are lower than the "basic" projections, are solely judgmental. For this reason, they should be interpreted as illustrative only. An alternative projection of employment requirements was not developed for public librarians. While support channelled to public libraries under the Library Services and Construction Act has provided the impetus for much of the recent expansion that has occurred in this area, public libraries have subsisted mainly on a very small but stable share of local government revenues. Overall, they are likely to maintain this competitive stance in the future. Within the public library sector, however, there are substantial differences in financial well-being. Suburban libraries tend to be in the strongest financial position and large urban libraries, in the most precarious position. Development of a comprehensive alternative projection for special librarians is impossible due to the numerous and diverse factors affecting employment growth in this occupation. No attempt was made to develop alternative projections for library attendants and assistants.

Nearly 90 percent of all librarians and library attendants work in the educational services industry, SIC 82, as defined by the Standard Industrial Classification Manual.[78] As in other industries, each of the educa-

[76] See appendix A for more details on the methods used in developing the 1980 and 1985 projections.

[77] Jack Alterman, "The United States Economy in 1985: An Overview of BLS Projections," *Monthly Labor Review*, December 1973, pp. 3-7.

[78] Executive Office of the President, Office of Management and Budget, 1967. SIC 82 includes elementary and secondary schools; college, universities, professional schools, and junior colleges; libraries and information centers; correspondence schools; vocational schools, except vocational high schools; and schools and educational services, not elsewhere classified. Thus, this major industry group includes all school, academic, and public libraries, plus some special libraries.

tional services industries uses a unique combination of occupational skills. Although growth or decline of each occupation is affected by its own complex of factors, demand in occupations that have a high concentration in one or a few industries reflects heavily the changing patterns of employment growth in those industries. In the case of the educational services industries and the key education related occupations–teachers, librarians, and counselors–the same principal demand factors (population and enrollment) are at play.

Total employment in the educational services industry is projected to rise to nearly 9.1 million in 1985 from slightly more than 6 million in 1970. (See table 13.) This represents a considerable slowdown in employment growth from that experienced over the 1960-70 period (2.8 percent annually compared with 5.3 percent). Looking over the projected period, employment in education services is expected to grow at an average annual rate of 2.9 percent between 1970 and 1980, reaching a level of nearly 8 million in 1980; growth, thereafter, is expected to decelerate to an average of 2.6 percent yearly. Interestingly, the Bureau's projections point to a rather sharp slowdown in the Nation's overall economic growth starting about 1978 and continuing into the 1980's.[79]

Table 13 indicates that growth will be slowest in elementary and secondary schools and colleges and universities–a reflection of overall enrollment trends. As noted in the previous section, elementary and secondary enrollments are projected to swing upward towards the end of the decade, stimulating employment growth in schools over the 1980-85 period. At about the same time, higher education enrollments will exhibit a pendulum effect and swing downward–contributing to a virtual halt in employment growth in colleges and universities. The rate of growth in employment in public libraries is expected to remain stable at about 4 percent throughout the period, reflecting demands of an expanding population for new and varied services. Growth in the other educational services industries, combined, is expected to be quite strong (6.5-percent annually) over the 1970-80 period–dropping thereafter, on average, to about one-half this level.

Employment requirements for librarians–reflecting in part the expected changes in employment growth in the educational services industries–are projected to rise from 115,000 in 1970 to 141,000 in 1980, and to 162,000 in 1985. (See table 14.) While nearly 9 out of every 10 librarians work in the educational services industry, they are only a very small proportion of the total number of persons employed in this major industry grouping–1.6 percent in 1970. This ratio is expected to remain fairly stable throughout the projected period.

A comparison of growth rates shown in tables 13 and 15 indicates that over the 1960-70 period, employment of librarians grew at nearly the same rate as the educational services industry–5.2 and 5.3 percent respectively. The projected patterns of employment growth over the 1970-80 and 1980-85 periods, however, are expected to differ. For example, employment growth for librarians, in contrast to that for the industry as a whole, is expected to be more rapid during the latter 5 years of the projected period. The principal cause is the projected rise in employment growth in elementary and secondary schools, where currently about 45 percent of all librarians are employed.

Employment of *school* librarians is projected to grow from 52,000 in 1970 to nearly 65,000 in 1980, and to nearly 80,000 by 1985. Table 15 indicates that over the 1980-85 period, when school enrollments are projected to turn sharply upward, growth in employment of school librarians is expected to be nearly twice as fast as

[79] For additional information and details on contributing factors, see Jack Alterman, "The United States Economy in 1985: An Overview of BLS Projections," *Monthly Labor Review*, December 1973, pp. 3-7.

Table 13. Employment in the educational services industry, estimated 1960 and 1970, and projected 1980 and 1985

Industry division	Employment in thousands				Average annual rate of change (percent)			
	1960	1970	1980	1985	1960-70	1970-80	1970-85	1980-85
Total, educational services	3,600	6,025	7,990	9,080	5.3	2.9	2.8	2.6
Elementary and secondary schools	(2)	4,110	5,120	6,000	(2)	2.2	2.6	3.2
Colleges and universities	(2)	1,576	2,270	2,375	(2)	3.7	2.8	.9
Libraries[1]	(2)	82	120	145	(2)	3.9	3.9	4.0
Educational services, n.e.c	(2)	257	480	560	(2)	6.5	5.4	3.3

[1] Public libraries.
[2] Not available.

Table 14. Projected employment requirements for librarians, by type of library, 1970-85

Type of library	Estimated 1970 employment	Projected requirements for librarians			
		Basic		Alternative low	
		1980	1985	1980	1985
All libraries	115,000	141,000	162,000	132,000	148,000
School	52,000	64,500	79,500	59,000	69,500
Public	26,500	30,000	33,000	30,000	33,000
Academic	19,500	26,500	27,000	22,500	23,000
Special	17,000	20,000	22,500	20,000	22,500

in the 1970's. Growth in school library staff requirements is expected to be stimulated over the entire projected period by an expected continued broadening of the school library's role in the instructional process. The small share (1.3 percent) that employment of librarians represents of total employment in schools is expected to remain constant throughout the projected period. On the other hand, the proportion of school librarians to total librarians is expected to rise from 45 percent in 1970 to nearly 50 percent by 1985.

Employment requirements for *public* librarians are projected to rise from 26,500 in 1970 to 30,000 in 1980—an annual rate of growth of 1.3 percent. Contributing to the relatively slow growth of librarian employment in public libraries is the increasing use of paraprofessional personnel. Changes in staffing patterns are particularly evident in large public libraries where specially trained library technicians and library clerks are relieving professional librarians of certain routine and clerical duties. In the 1980's, the rate of employment growth is expected to accelerate to 2 percent a year, on average—with projected requirements for public librarians reaching 33,000 by 1985. Despite this anticipated upward surge, employment of librarians as a proportion of total employment in public libraries will drop to 24 percent by 1985 from about 32 percent in 1970. In sum, public libraries are expected to decline as an area of job opportunities for librarians—accounting for about 20 percent of total librarian employment in 1985, compared to 24 percent in 1970.

Employment requirements for *academic* librarians are projected to increase to 25,500 in 1980 from 19,000 in 1970—an average annual rate of 3.1 percent. Between 1980 and 1985, however, the rate of growth is expected to drop sharply to an annual average of .3 percent, reflecting the virtual halt in employment growth in colleges and universities during this period because of the projected sharp drop in higher education enrollments. As a proportion of total employment in colleges and universities, employment of academic librarians is a very small share—1.2 percent in 1970. This ratio is expected to inch downward to 1.1 percent by 1985. Because of the wide divergence in rates of growth over the projected period, employment of academic librarians as a proportion of total librarian employment is expected to increase from 17 percent in 1970 to 19 percent in 1980, then drop back to 17 percent by 1985.

Because no one variable or set of variables apply to *special* librarians as a group, the projections of employment requirements in this field of library science were developed entirely within the framework of the Bureau's industry-occupational matrix program.[80] As such, they reflect changing patterns of occupational composition in the specific industries employing special librarians. As indicated in table 14, employment of special librarians is projected to increase from 17,000 to 20,000 between 1970 and 1980 (1.6 percent annually), rising thereafter at a more rapid pace (2.4 percent) to 22,500 by 1985. Throughout the projected period, the noneducational services industries, combined, are expected to continue to account for about 10 percent of total employment of librarians.

Employment requirements for *library attendants and assistants* are expected to rise sharply, from 120,000 in 1970 to 173,000 in 1980 and 212,000 in 1985. (See table 16.) Table 17 indicates how employment growth will vary by type of library over the projected period. A comparison of data in tables 15 and 17 shows that

[80] See appendix A for information on how such estimates are derived.

Table 15. Average annual rates of change in employment of librarians, by type of library, 1960-70, and projected 1970-80 and 1980-85

Type of library	Employment 1960-70	Projected requirements	
		1970-80	1980-85
All libraries	5.2	2.0	2.8
School	5.3	2.2	4.3
Public	4.1	1.3	2.0
Academic	6.5	3.1	.3
Special	5.5	1.6	2.4

growth in employment of library attendants and assistants—while projected to grow at a more rapid pace than librarians—will follow the same pattern of growth expected for librarians. The more rapid rate of growth for attendants and assistants reflects continued attention to task analysis, job redesign, and the management techniques designed to promote effective utilization of staff. Growing use of paraprofessional personnel in libraries is in line with a similar trend observed in education, health, welfare, and other community-oriented industries.

The following tabulation illustrates how employment of library attendants and assistants, as a proportion of total employment is expected to shape up in each of the educational services industries:

	1970	*1980*	*1985*
Total, educational services	1.7	1.9	2.1
Elementary and secondary schools	.5	.5	.7
College and universities	2.5	2.6	2.6
(Public) libraries	55.2	56.0	58.6
Educational services, n.e.c.	.3	.2	.3

Expected changes in the percent distribution of library attendants and assistants, by type of employment setting, are illustrated in the following tabulation:

	1970	*1980*	*1985*
Total, all industries[1]	100	100	100
Total, educational services	87	92	89
Elementary and secondary schools	16	16	19
Colleges and universities	33	35	29
(Public) libraries	38	40	40
Educational services, n.e.c	1	1	1
All other industries, combined	13	8	11

[1] Detail may not add to 100 due to rounding.

Table 16. Projected employment requirements for library attendants and assistants, by type of library, 1970–85

Type of library	Estimated 1970 employment	Projected requirements	
		1980	1985
All libraries	120,000	173,000	212,000
School	19,000	27,000	40,000
Public	45,000	67,000	85,000
Academic	40,000	59,000	62,500
Special	16,000	20,000	24,500

Table 17. Average annual rates of change in employment of library attendants and assistants, by type of library, 1960-70 and projected 1970-80, and 1980-85

Type of library	Employment 1960-70	Projected requirements	
		1970-80	1980-85
All libraries	12.5	3.7	4.1
School		3.6	8.2
Public	([1])	4.0	4.8
Academic	([1])	3.9	1.1
Special	([1])	2.3	4.1

[1] Not available.

Specific occupational needs—a qualitative assessment

This section presents a qualitative assessment, based largely upon BLS survey results, of specific occupational skills that will be sought by libraries over the projected period. The discussion focuses on three key areas of expertise, each involving special skills or educational preparation.

Possible reactions by administrators of library education programs to prospective supply-demand conditions for librarians are examined later in the report. (See section on Implications for Training.) The information in this section gives an added dimension to the gross numbers on projected requirements and supply by focusing on those occupations in which growth is expected to be particularly strong in the 1970-85 period—community outreach personnel, audiovisual or media personnel, and computer personnel. All require specialized training.

Community outreach personnel. Demand is expected to be strong through 1985 for community outreach personnel to staff urban public library programs which serve minority groups, the poor, the elderly, and other special groups. Community outreach personnel include librarians equipped with special skills for dealing with minorities and the disadvantaged; professional workers in such related fields as social work, sociology, and social psychology; and, at the nonprofessional level, assistants or aides who are familiar with the community and proficient in imparting basic information to individuals or groups.

The BLS survey results point to a strong demand for community outreach librarians; fully 40 percent of the public libraries surveyed hope to add community outreach specialists to their staff during the decade of the 1970's. One large library in the Midwest reported to BLS interviewers that changing inner-city service patterns will create a demand for new programs, and for specially

qualified staff. Among the qualifications sought is graduate training in social work as well as in librarianship, and a demonstrated ability to work with groups.

Media personnel. Audiovisual technology has affected staffing patterns in nearly all types of libraries. Nowhere, perhaps, has the emergence of media programs had a greater impact on personnel needs than in school libraries and junior college libraries.

School library programs and staff needs have been strongly influenced by developments in instructional technology and by innovations in instructional materials. The widespread availability of equipment and materials has facilitated the classroom use of a variety of audiovisual materials—filmstrips, tape and disc recordings, slides, transparencies, and 16mm motion picture films. In addition, some school systems have incorporated various instructional technologies into the curriculum. Among the "teaching machines" already in use are language laboratories, cable television, and the computer. The field of educational technology has flourished in recent years because of developments in learning theory; technological breakthroughs; the availability of funds to purchase instructional machines and materials; and the emergence of a new cluster of professional and paraprofessional occupations.

The transformation of the traditional school library to the heavily nonprint-media-oriented "media center" or "instructional materials center" has necessitated the hiring of personnel with special training in audiovisual technology, curriculum development, and so forth. Some school systems have opted for two separate departments: The library, headed by a school librarian; and the media center or audiovisual center, headed by a media specialist or audiovisual coordinator. In other school systems, library and audiovisual programs are administered jointly, in a unified media program staffed by librarians, audiovisual specialists, and support personnel. The unified approach is officially recommended by the two principal associations representing librarians and audiovisualists: The American Association of School Librarians and the Association for Educational Communication and Technology.[81]

Responses to the survey make it clear that the widespread acceptance of educational technology, and the introduction of new instructional methods and materials, has created a need for specially-trained personnel. Two out of 3 school libraries surveyed looked forward to hiring a media specialist or media technician, or both, within the next 10 years. Roughly 15 percent of the school libraries in the survey hoped to add an instructional materials specialist to the staff. Other new and emerging occupations reported by school libraries were: District supervisor, computer specialist, curriculum specialist, and technical assistant.

"Media" clearly is the growth area in school library staffing. However, in order to fully assess future manpower needs and educational requirements in the field of school librarianship, it is important to obtain additional information on the type of professional training media specialists are expected to offer. Currently, there are several different routes to specialization:

- Master's degree in librarianship, with specialization in school librarianship and course work in media technology;
- Master's degree in education, with specialization in media technology;
- Master's degree in communications technology, with specialization in school media.

The BLS survey did not produce conclusive data on the type and level of professional education most appropriate for newly hired media specialists. Several school libraries in the survey specified that candidates for media specialist positions should combine preparation in audiovisual or media technology with librarianship, but most school libraries simply stated that media specialists should offer preparation in audiovisual or media technology and a background in education, including course work in educational psychology and curriculum development. The school libraries in the BLS sample did not address either of two important issues: (1) should the media specialists have formal training in librarianship, in audiovisual technology, or in both fields; and (2) at what level should this training be taken? Is an undergraduate degree sufficient?

Although firm evidence is lacking, it appears that the master's degree in librarianship is an appropriate qualification for a school media specialist provided course work in education and audiovisual technology is included in the graduate or undergraduate training. Without some specialization in education or media, or both, the graduate degree in library science may not suffice. Moreover, persons with a bachelor's or master's in education, including a specialization in audiovisual methods and materials, may well be in a position to compete successfully with library science graduates for school media positions.

School libraries also report a strong demand for media technicians—high school or community college graduates with the technical skills to produce materials,

[81] American Association of School Librarians and Department of Audiovisual Instruction of the National Education Association (now the Association for Educational Communication and Technology), *Standards for School Media Programs*, Chicago and Washington, D.C., ALA and NEA, 1969.

repair and maintain equipment, and assist with various kinds of presentations. Media technicians are not the same as library technicians. They are expected to have the skills to operate and maintain film, television, radio, graphic, and art equipment. Many media technicians are men.

In colleges and universities as well, the growing use of instructional technology and audiovisual materials has created a strong demand for media specialists and media technicians. This demand is expected to continue. Over 45 percent of the academic libraries surveyed saw some possibility of hiring a media specialist in the future. Nearly 15 percent expected to hire a media technician. Approximately 5 percent of the academic libraries surveyed thought it likely they would need to hire an instructional materials specialist.

In its 1972 report on instructional technology in higher education,[82] the Carnegie Commission on Higher Education suggests that computers, cable television, videocassettes, and other forms of electronic technology will be "generally introduced" in academic libraries between 1980 and 1990, and will be "generally in use" in libraries after 1990. Some implications of the expanding use of informational technology in higher education, in the opinion of the Carnegie Commission, are these:

- The library, if it becomes the center for the storage and retrieval of knowledge in whatever form, will become a more dominant feature of the campus. New libraries should be planned with the potential impact of technology in mind.
- New buildings should be built with adequate electronic components. They should also be planned for 24-hour use.
- New professions of multimedia technologists are being born.
- On campus there will need to be some agency (whether it is the library or some other facility) that will provide equipment and materials, assist in the preparation of programs, and aid in the presentation of programs.

In public libraries, too, the growing importance of multimedia collections has produced a demand for appropriately trained personnel at the professional and nonprofessional levels. Of the public libraries surveyed, 34 percent anticipated a future need for media specialists or media technicians, or both.

Computer personnel. Librarians have made considerable progress over the past decade in understanding and using computers. Beginning with the 1963 Conference on Libraries and Automation,[83] and continuing through the 1970 Conference on Interlibrary Communications and Networks,[84] great effort has been expended in education and training through special courses, conference programs, and workshops. Most library schools reportedly require graduates to have some familiarity with systems analysis and data processing techniques.[85] Many librarians have become expert programmers, and have worked successfully with local computer staff members (in a university computer center, for example) in designing systems. The demand for computer-oriented library personnel is expected to continue.

Among the public libraries surveyed, 43 percent foresaw a possible future need for computer specialists or clerks, or both, with electronic data processing skills. Fully 55 percent of the academic libraries surveyed foresaw some need for a computer specialist, and another 15 percent anticipated a possible future need for keypunch operators and automated data systems typists.

Employers were asked what qualifications they would look for in hiring a computer specialist, but no clear preference emerged. Some libraries opted for systems analysts and programmers with library experience, whereas others preferred librarians with computer skills. The survey results did not yield a clear preference, on the part of employers, for computer specialists with a graduate degree in librarianship, a degree in computer science, both degrees, or some combination of graduate study and experience. The absence of a single preferred route to qualification as a library systems analyst or systems librarian has been noted by Carter.[86] Describing the emergence, in recent years, of a cadre of individuals experienced in library systems analysis and automation, Carter points out that library schools are capable of providing "considerable training" in automation principles and the techniques of systems analysis. Just a few years ago this was not the case, and libraries in need of systems personnel tended to turn to individuals with prior experience in systems analysis or programing, or both. A number of these individuals have been attracted

[82] *The Fourth Revolution: Instructional Technology in Higher Education*, A Report and Recommendations by the Carnegie Commission on Higher Education (New York, McGraw-Hill Book Co., 1972).

[83] Conference on Libraries and Automation, Airlie Foundation, 1963, *Libraries and Automation, Proceedings*, edited by Barbara E. Markuson (Washington, U.S. Government Printing Office, 1964).

[84] Conference on Interlibrary Communications and Networks, Airlie House, 1970, *Proceedings of the Conference on Interlibrary Communications and Information Networks*, edited by Joseph Becker (Chicago, American Library Association, 1971).

[85] Barbara Evans Markuson, "An Overview of Library Systems and Automation," *Datamation*, February 1970, pp. 60-68.

[86] Ruth C. Carter, "Systems Analysis as a Prelude to Library Automation," *Library Trends*, April 1973, pp. 505-21.

to the library profession and have attained education and experience in both areas. Carter observes that "... at present there does not seem to be any serious shortage of individuals with experience or expertise in library systems analysis."[87]

Replacement needs

Projections of changes in manpower requirements by occupation and industry provide only one part of the information on the total number of job openings which will need to be filled in the years ahead. In most occupations, more workers are needed to fill positions left vacant by workers who retire or die, than are needed to staff new positions created by growth of the field. The Bureau's projections to 1985 indicate that replacement needs will account for two of every three job openings throughout the economy between 1972 and 1985.[88]

Replacements generally exceed the average in occupations that (1) employ many women, and (2) have a large proportion of older workers who have relatively few years of working life remaining. Chart 6 and table 18, which summarize expected job openings for librarians over the projected period, indicate that the number of librarians needed to replace those who retire, die, or leave the labor force for other reasons will greatly exceed the number required to fill newly added positions. Of the 168,000 job openings expected over the entire 1970-85 period, (under the basic model), 121,000 or nearly three of every four are expected as a result of vacancies that will occur due to deaths and retirements. Only 1 vacancy in 4 will be created by expansion or by the introduction of new programs and positions. This is in marked contrast to the situation of the 1960's when very rapid employment growth caused staff expansion to account for over half the job openings for librarians.

The situation for library attendants and assistants is similar to that for librarians. (See table 19.) Between 1960 and 1970, expansion accounted for 83,000 or more than two-thirds of the total estimated 120,000 job openings for library attendants and assistants. Over the 1970-85 period—with employment of library attendants and assistants expected to grow only about one-third as fast as during the 1960 decade—the proportion of job openings resulting from replacement needs is expected to rise to 62 percent, nearly a reversal of the earlier trend.

[87] Op. cit., p. 518.

[88] Neal H. Rosenthal, "The United States Economy in 1985: Projected Changes in Occupations," *Monthly Labor Review*, December 1973, pp. 18-26.

Chart 6

Estimated number of annual job openings for librarians resulting from growth and replacement needs, 1960-70 and projected 1970-85

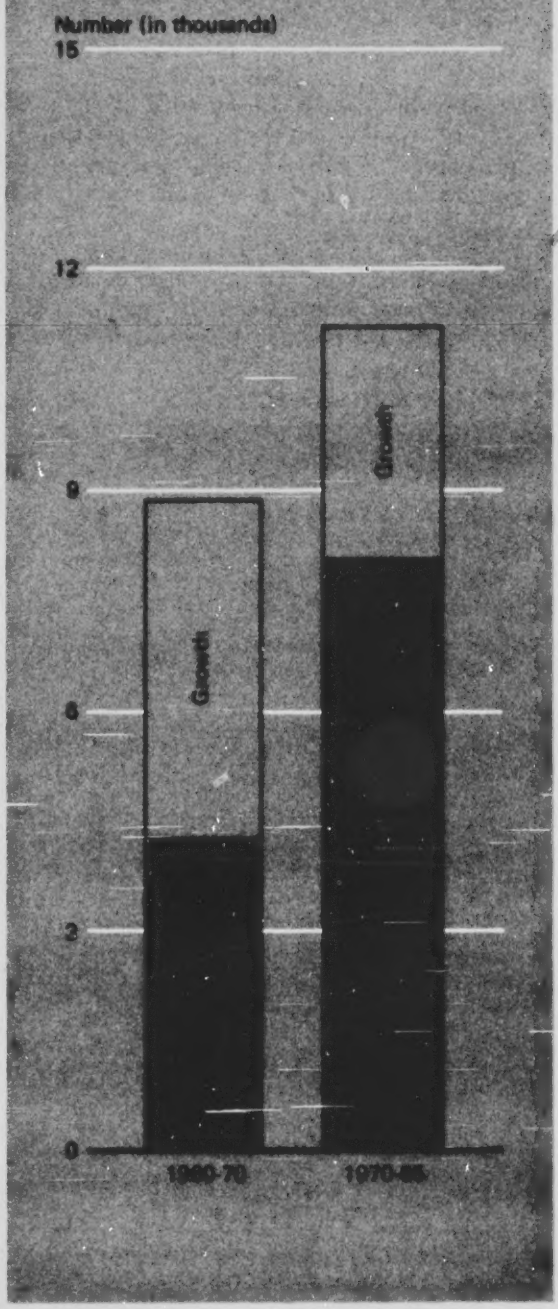


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Table 18. Estimated openings for librarians, 1960-85

Openings	Basic				Alternative low		
	1960-70	1970-80	1970-85	1980-85	1970-80	1970-85	1980-85
Total	89,000	100,000	168,000	65,000	89,000	148,000	57 000
Employment growth	46,000	26,000	47,000	21,000	17,000	33,000	16,000
Replacement needs[1]	43,000	74,000	121,000	44,000	72,000	115,000	41,000

[1] Estimates of job openings due to separations from the labor force were developed according to standard BLS procedures as outlined in Volume I of *Tomorrow's Manpower Needs* (BLS Bulletin 1606, February 1969).

Table 19. Estimated openings for library attendants and assistants, 1960-85

Openings	1960-70	1970-85	1970-80	1980-85
Total	120,000	243,000	142,000	97,000
Employment growth	83,000	92,000	53,000	39,000
Replacement needs[1]	37,000	151,000	89,000	58,000

[1] Refer to footnote[1], table 18.

Many job openings also are created because of occupational shifts. However, data for estimating transfer losses and gains to the library profession are not available at the present time—a situation which applies to nearly all occupations.[89] Estimates of job openings in this section, therefore, do not include transfers.

[89] The BLS currently is analyzing recently acquired 1970 census data that should provide some insight on detailed occupational mobility between 1965 and 1970.

Chapter 3. Projections of Manpower Supply

The principal sources of supply of librarians are new college graduates, labor force reentrants and delayed entrants, and occupational transfers. Together they constitute the potential pool of persons to fill jobs created by growth and replacement needs.

New college graduates

New college graduates are anticipated to be the primary source of supply for the library profession throughout the 1970's and into the eighties. U.S. Office of Education projections indicate that over the 1970 to 1985 period, an annual average of 11,200 bachelor's and master's degrees will be awarded in the field of library science.[90] This is 2½ times the annual average for the 1960 to 1970 period.

Chart 7 illustrates the rapid growth in the number of library science bachelor's and master's degrees awarded over the sixties and in the early 1970's. While growth is expected to continue, the rate of growth is projected to slow. Between 1960 and 1970, the average annual rate of growth was more than 12 percent—3½ times the projected rate for the 1970-85 period. Thus, while the number of graduates earning degrees in library science will continue to expand, the growth surge of the sixties will subside considerably, and after 1980 there is expected to be a significant leveling off in the number of degrees awarded.

Not all those who receive their degrees in library science can be considered part of the effective supply of librarians. Some degree recipients are already in the labor force. Others accept employment outside the field of librarianship. Still others delay entry into the labor force to continue their education, or to assume homemaking or family responsibilities. The projections of new graduates who will become a part of the effective supply are developed considering these factors.

An estimated four-fifths of all persons who will receive a bachelor's or master's degree in library science are expected to enter the library profession. This entry rate is based on information relating to patterns of entry of college graduates as a whole into the labor force and specifically of graduates of programs in teaching and librarianship.[91] An estimated 134,000 new graduates are expected to seek entry as librarians over the 1970-85 period, or an annual average of about 9,000.

Other sources of supply

The supply of new graduates will be augmented by reentrants, delayed entrants, and persons transferring into the occupation. Reentrants are workers who leave the labor force temporarily, and then return. In a field such as librarianship in which a large number of professional women have traditionally been employed, reentry may represent a significant source of supply. Delayed entrants to the field are persons who do not enter the labor force immediately upon graduation but seek entry after some period in a nonlabor force status. Many persons also may enter the profession by transferring from other occupations or by occupational upgrading.

As employment in the occupation increases, the number of persons in these supply categories is expected to grow. As more people enter and leave the occupation and as the number of new graduates grows, the potential supply of reentrants and delayed entrants may be expected to expand; and as more persons with higher levels of educational attainment enter the labor force, the potential for occupational transfer also may increase.

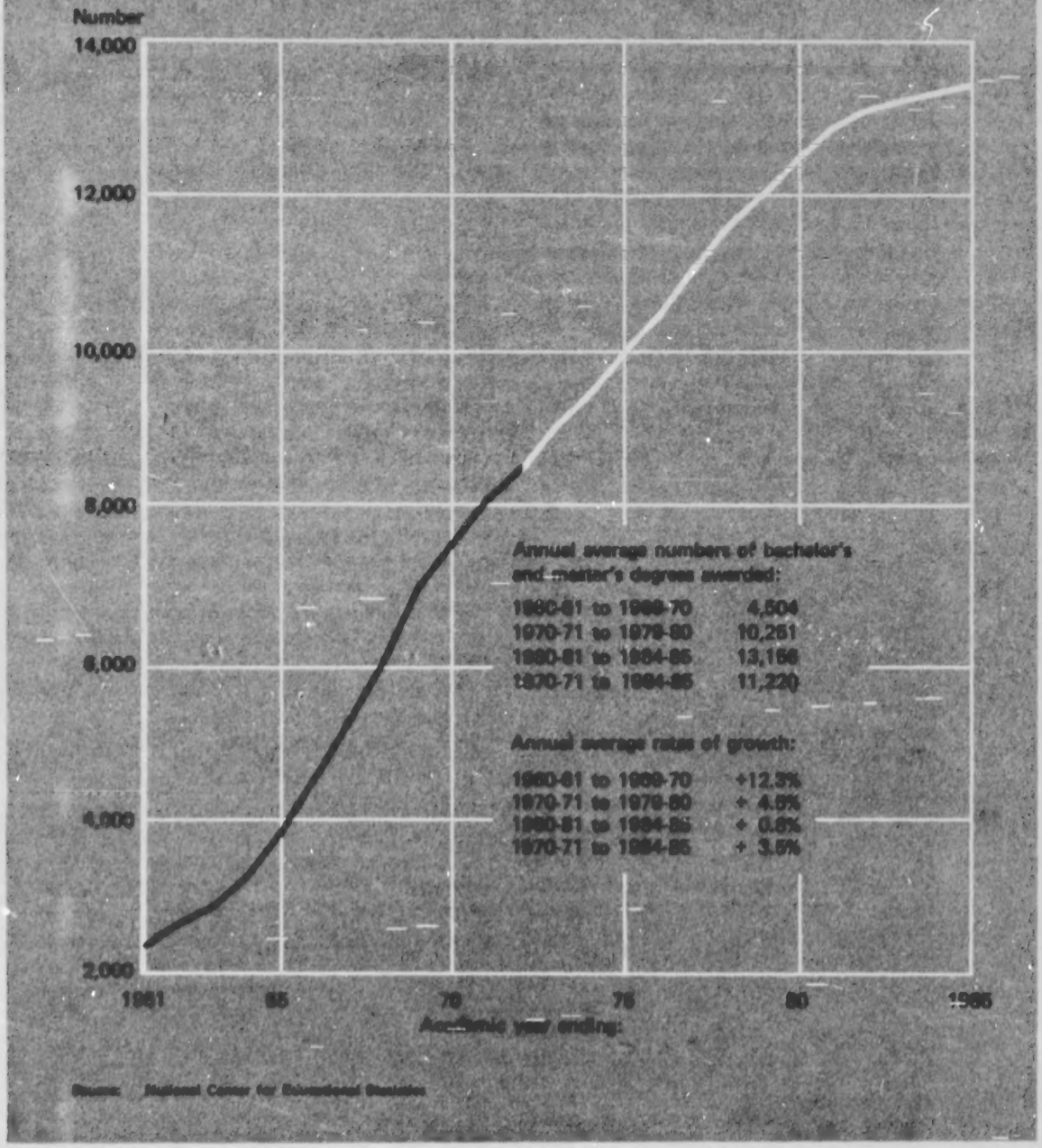
Since data are available only on entry patterns of new library science degree recipients into the profession and these data indicate a fairly consistent entry rate over the past years, the basic assumption underlying the overall supply analysis is that these patterns of entry will be

[90] *Projections of Educational Statistics to 1981-82*, 1972 ed. (Office of Education, 1973, OE 73-11105), pp. 52-57.

[91] *Occupational Outlook for College Graduates*, 1974-75 ed. (BLS Bulletin 1785, 1974). *Teacher Supply and Demand in Public Schools, 1972* (Washington, National Education Association, Research Report 1972-R8). (Information is published annually in the *Teacher Supply and Demand in Public Schools* Reports.)
Carlyle J. Frarey and Carol L. Learmont, "Placements and Salaries, 1972: We Hold Our Own," *Library Journal*, June 15, 1973, pp. 1880-86. (Information is published annually in the *Library Journal* in June.)

Chart 7

Number of library science bachelor's and master's degrees, 1960-61 to 1971-72 and projected 1972-73 to 1984-85



Source: National Center for Educational Statistics

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maintained. The job prospects for persons other than new graduates must be derived by implication. Lack of data makes an independent supply analysis impossible. While it is known that delayed entrants, reentrants, and occupational transfers may represent significant supply components, the extent of their significance is not measurable. There is a lack of information on patterns of reentry and delayed entry as well as inter-occupational mobility, and little is known even about the operation of the factors which affect entry into the occupation.

Library attendants and assistants

Estimates of the supply of library attendants and assistants were not developed because (1) there is no clear-cut definition of the occupation in terms of skill content and it is difficult to pinpoint the sources of occupational supply, and (2) there is little information on patterns of entry into the occupation from various sources of supply.

The lack of clarity is defining the nature of the work of library attendants and assistants is reflected in the very inconsistency of terminology which characterizes the occupation. Job titles, including "library technical assistant," "library aide," "library attendant," and so forth, describe persons variously employed. Work may range from simple clerical tasks to functioning in a truly paraprofessional capacity, providing auxiliary library services which require much more highly specialized skills.

In the 1970 Census of Population, occupational mobility information was collected, and the data indicate to some extent the diversity of the occupational supply sources of library attendants and assistants. Persons who reported their 1970 occupation as "library attendant" were engaged in a wide variety of activities 5 years previous. Slightly over one-half were not in the labor force; about one-fourth reported themselves to have been library attendants 5 years before. The remaining one-fourth were scattered over the occupational spectrum. About half of this remaining group were in other clerical occupations in 1965, but they were not concentrated in any one in particular. Many library attendants in 1970 had been in other "clerical and kindred worker" occupations in 1965. Of 47 detailed occupations in the broad occupational category, in 1970 library attendants had been in 34 of these in 1965. Others reported entering the occupation from professional fields including librarianship and teaching, and some reported themselves to have been salesworkers or service workers. A few were scattered throughout the other broad occupational categories.

Entrants to an occupation may receive occupational training in colleges and universities, junior and community colleges, formal employer training programs, self-study, vocational education programs at the secondary and postsecondary levels, and informally on the job. In an occupation in which minimal skills are required, the potential sources of training are more numerous, and in an occupation in which training is less rigorous, entry from the training source into the occupation is less certain and continued attachment to it is more tenuous. Specialized skills training limits the potential sources of training, and entry may be restricted to those with formal education. Also, the occupational mobility out of a field is limited by the investment in training which the individual has made.

Overall, the training of library attendants and assistants varies considerably. Responses to the BLS Library Manpower survey showed that fewer than 1 percent of staff members classed as library technical assistants had the associate of arts degree in library technology. The University of Maryland's 1973 survey of small and medium-sized Federal libraries in the Washington, D.C. area found that only 0.8 percent of the technicians covered by the survey had the associate degree with a major in library science. Some library attendants and assistants have college training; some have only a high school education which has been supplemented by nothing more than the most informal on-the-job orientation with work in a library. With occupational training so diverse, to specify the sources of training is virtually impossible. Even when sources of training are known though, the number of persons trained may be unknown. For example, while on-the-job programs in individual libraries and library systems are available, no comprehensive data on the number of persons so trained are available.

To some extent training of library attendants and assistants has become more formalized. The proliferation of community and junior colleges throughout the 1960's and rapid enrollment growth during the decade have helped establish 2-year colleges as a source of supply in various technical and paraprofessional fields. Community and junior college enrollments between 1960 and 1970 more than tripled, and their anticipated expansion in the future together with increased emphasis on the career education function of the community college likely will make them a more significant supply factor.

Supply projections capability, however, is limited by lack of historical data. The U.S. Office of Education has data on associate degrees and other awards below the baccalaureate only since 1965-66. While these include the "library assistant technologies" curriculum, no projections of degrees awarded below the baccalaureate are

developed and projections of 2-year college enrollments are not available by curriculum.

Library technical assistant training programs are concentrated to a considerable extent in California which has allocated substantial resources to the development of its higher education system. According to the latest institutional data on degrees conferred, of the 471 associate degrees and other formal awards below the baccalaureate awarded in library assistant technologies in 1970-71, nearly one-third were awarded to graduates of California institutions, and of the 24 States with programs California had nearly one-third of the total number.

Supply analysis also is limited to the extent that training paths are not mutually exclusive. Data on graduates of library technology programs may understate the actual impact of these programs. Many persons already employed in libraries enroll for several courses but do not complete the formal 1- or 2-year programs. The U.S. Office of Education information on full- and part-time attendance status indicates that of those receiving formal education, on-the-job training represents—for some, at least—a vital element in the occupational entry process. Of persons enrolled in library technical assistant training programs in 1970-71, nearly two-thirds attended only part-time.[92]

The future of training programs and the establishment and recognition of educational requirements and other occupational credentials, all have implications for the supply of library attendants and assistants. An analysis of supply cannot be developed, however, until more definitive data are available on sources of occupational supply and patterns of entry into the occupation.

[92] Council on Library Technology. *1971 Directory of Institutions Offering or Planning Programs for the Training of Library Technical Assistants*, p. 2.

Chapter 4. Outlook and Implications

New graduates and others

To meet the projected demand for 168,000 librarians between 1970 and 1985–47,000 for growth and 121,000 for replacement–the number of persons entering the profession must average 11,200 a year. Projecting entrance of new graduates on the basis of past trends, an estimated 80 percent of new bachelor's and master's library science degree recipients may be expected to enter the labor force as librarians. For the 1970-85 period, this is an annual average of 9,000 new graduates entering the occupation. The balance of job openings will have to be filled from other sources of supply. Thus, 2,200 openings annually are expected to be available to persons seeking reentry, delayed entry, and transfer into the occupation.

Table 20 highlights the supply-demand situation for librarians. Over the 1960-70 period, an estimated annual average of 8,900 openings arose due to growth and replacement needs. New graduates were available to fill only about 40 percent of these openings. This implies that an estimated 5,300 openings were filled by persons other than new graduates.

A turnaround in this situation is projected over the 1970-85 period. New graduates will be available to fill an estimated 80 percent of total openings, and the number of jobs open to potential delayed entrants, reentrants, and occupational transfers is anticipated to be sharply curtailed. The projected 2,200 annual openings available to persons from these three supply sources is only about two-fifths of the number of annual openings estimated to have been filled from them during the 1960's.

For new college graduates seeking jobs as librarians, supply and demand are expected to be approximately in balance. For the 1970-85 period, the estimated annual average number of job openings resulting from growth and replacement needs is exactly equal to the projected annual average number of bachelor's and master's degrees to be awarded over the 15-year period. However, since all degree recipients are not a part of the effective supply, overall demand will exceed the supply of new graduates.

The outlook for delayed entrants, reentrants, and occupational transfers is expected to be less favorable, with the prospect of much more competition among jobseekers than in the past. This situation arises primarily from the fact that the supply of new college graduates will be able to meet demand much more adequately than over the past decade. Less market pressure will be exerted to draw people from other sources of supply into the profession. In addition, new graduates seeking jobs are likely to have certain market advantages. They have up-to-date training and generally command lower entry-level salaries. For reentrants and delayed entrants, especially women with family responsibilities, lack of mobility may be an obstacle to occupational entry. To the extent that experience is a prime factor influencing hiring in libraries, however, reentrants and occupational transfers are likely to have a competitive edge over the new college graduate.

In certain locations or in certain types of libraries, some variation from the overall supply-demand projections may occur. Labor market costs and imperfections, including geographic immobility and lack of knowledge of job opportunities open to librarians seeking labor force entry–either as new graduates or as reentrants, delayed entrants, or transfers–represent barriers to entry.

Actually, the so-called "turnaround" in the supply-demand situation for librarians represents an alignment with the general labor market situation. The librarian shortage in the sixties created a situation which facilitated tremendous movement of delayed entrants, reentrants, and occupational transfers into the occupation. The anticipated tightening of the labor market will create an increasingly competitive situation for persons in these categories. It is expected that through the mid-1980's, about 1 out of every 5 librarian jobs will be filled from sources other than the pool of new degree recipients. This is much more in line with the overall situation for the college trained labor force than the 60-percent rate of the 1960-70 period. The Bureau of Labor Statistics projects that overall during the 1972-85 period, for jobs requiring a college degree, 1 entrant out of every 7 will be someone other than a new college graduate.

Prospects for the future of librarianship can be discerned by considering the BLS labor force projections

Table 20. Supply-demand situation for librarians, 1960-70 and projected 1970-80, and 1980-85

(Annual averages)

Period	Openings			Bachelor's and master's degrees awarded in library science	Estimated entry of new graduates[2]	Implied number of openings filled by delayed entrants, reentrants, and net occupational transfers
	Total	Growth	Replacement[1]			
1960-70	8,900	4,600	4,300	4,500	3,600	5,300
BASIC						
1970-80	10,000	2,600	7,400	10,300	8,200	1,800
1970-85	11,200	3,100	8,100	11,200	9,000	2,200
1980-85	13,100	4,200	8,900	13,200	10,600	2,500
ALTERNATIVE-LOW						
1970-80	8,900	1,700	7,200	10,300	8,200	700
1970-85	9,900	2,200	7,700	11,200	9,000	900
1980-85	11,400	3,200	8,200	13,200	10,600	800

[1] Deaths, retirements, and other *labor force* separations. (Excludes transfers to other occupations.)

[2] Assumed 80 percent entry rate.

and the outlook for college graduates generally. Overall, it is expected that educational requirements for many jobs will rise and there will be an upgrading in the educational attainment level of the labor force. Twice as many college degrees are projected to be awarded between 1972-85 as over the previous 13-year period, 1959-72, and the supply of college graduates in the Nation's labor force is projected to increase over 2½ times the rate of increase in the labor force as a whole. As a result of the greater number of college graduates, the tendency for employers to hire persons with the highest educational qualifications, and of course, the educational upgrading necessitated by the changing nature or content of existing jobs, job entry requirements may be expected to rise.

The Bureau of Labor Statistics projects that nearly a quarter of the 1972-85 job openings will require persons with 4 years or more of college; this compares with an estimated 18 percent filled by college graduates in 1959-72. While some of this increase is attributable to the fact that professional and technical employment growth will be faster than growth in all other major occupational groups, some of it is not; about one out of five jobs open to college graduates through the mid-1980's is expected to result from educational upgrading in occupations in which workers formerly were employed with less education.

As the labor market for librarians tightens, the emphasis on educational qualifications is likely to increase. Of the library science degrees conferred in 1970-71, about 7 out of 8 were at the master's level, and although only about one-third of all library science programs in institutions of higher education were accredited by the American Library Association, the ALA-accredited programs conferred four-fifths of all master's degrees. About 70 percent of total bachelor's and master's degrees conferred were master's degrees awarded by ALA-accredited programs. As competition for jobs becomes stiffer and as new graduates seek to enhance their labor market potential, the tendency for students to enroll in accredited programs at the master's level is likely to increase. Library educators have begun to voice concern, however, about a possible shift in the number of openings in accredited programs. The likelihood of future curtailment in enrollments in accredited library science programs, coupled with continued growth in nonaccredited programs, is discussed in the section on Training Programs.

Since the outlook for new college graduates in librarianship is only one piece of the overall outlook picture for college graduates, it is valuable to consider how they fit together. Two points of variation may be noted. First, the extent to which supply and demand are projected to be in balance is somewhat different, and second, the projected requirements arising from growth and replacement needs vary as well.

For college graduates overall, a rough balance of supply and demand is projected for 1972-80, but for 1980-85 the Bureau of Labor Statistics projects that supply may exceed requirements. This prospective gap in the later period is anticipated to stem not from an increase in supply but a marked leveling off of demand. Although the number of degrees awarded over the 1980-85 period will increase less—both absolutely and relatively—than in 1972–80, this slowdown will not be sufficient to compensate for the projected slowdown in the rate of growth in the economy during the 1980-85 period.

Labor force growth generates growth in the economy. During the 1960's the number of births in the United

States declined; consequently, the number of labor force entrants during the projection period will taper off toward the end of the 1970's. This follows upon the swelling impact that the postwar baby boom's entry into the labor force effected in the previous decade. A dampened demand for goods and services and sharp slowdown of economic growth thus is anticipated. For college graduates, the result is a market for highly trained workers which may not be able to absorb all potential entrants into jobs commensurate with their training, a situation which may create problems of underemployment, job dissatisfaction, and increasing occupational mobility. In addition, the availability of more college graduates is likely to affect adversely persons with less education both in terms of job entry and advancement.

For college graduates entering the labor force as librarians, a balance of supply and demand for the 1970-85 period is projected. While the slowdown in economic growth which is expected to cause the deterioration of the situation for college graduates as a whole will have some effect on occupational needs, the primary demand factors for librarians suggest that requirements will be sufficient to absorb the influx of new workers. One of the projected outcomes of the economic slowdown is a slackening in the growth of government revenues and increased budget pressures in the government sector. Although slower growth in the labor force and slower growth in economic activity will dampen demand for government functions overall, the various levels of government may have to evaluate and reestablish their priorities. Because school enrollment projections indicate a rise in enrollments from 1980-85, increased priority is apt to be given to the education function of government. Similarly, public libraries are likely to continue receiving support as requirements of a growing population and an increasingly well-educated population continue to be served. The moderation of the overall demand for college graduates which is influenced by the moderation of economic growth thus is expected to have a less adverse effect on librarians than on new college graduates in various other fields.

The overall outlook for college graduates and the outlook for those entering librarianship differ on another point—the projections of requirements for growth and replacement. Replacement needs for librarians are expected to be higher than those for college-educated workers overall. Nearly three-fourths of the anticipated openings for librarians over the 1970-85 period will stem from the need to replace workers who die, retire, or leave the labor force. For the labor force as a whole, net occupational openings for 1972-85 due to replacement needs are projected to be double those for growth needs. And in the case of college graduates, 1 out of 5 of the 14.5 million college graduates who will be needed to fill job openings over the 1972-85 period will find a job created by educational upgrading. Of the remainder, about two-fifths will be needed to meet growth requirements in occupations currently requiring a college degree and nearly three-fifths to meet replacement needs.

Training programs

Librarians. The anticipated adequate supply of potential jobseekers in the 1970-85 period has several implications for programs of library education. Experience in other occupations suggests that in the search for jobs, new library school graduates are likely to have a competitive advantage over experienced librarians seeking to reenter the labor force. If this holds true for librarianship over the projected period, nearly all newly graduated librarians are likely to succeed in finding jobs. Competition, however, is likely to be in store for many, if not most, reentrants. The data suggest strongly that a great number of graduate librarians who interrupt their careers in the 1970's or early 1980's will experience difficulty in returning to the profession.

Library schools are in a better position to adjust to the changing job market than are many other professional schools, those requiring a longer period of formal education. Because the master's program in librarianship may be completed in only 1 year of full-time study, library schools can make a fairly rapid adjustment to the market.

Library schools concerned about the career satisfaction of past as well as current graduates may opt to curtail expansion. Some schools already have done so. However, this decision requires additional information on the employment experience of library school graduates. The schools themselves are in the best position to monitor new graduates' placement experience, and to keep track of former graduates who leave the profession for a period of time and then seek to reenter. Both situations should be watched closely, and taken into consideration when decisions are made as to maintaining, expanding, or curtailing enrollments.

There were clear signs, in 1973 and 1974, that a number of ALA-accredited programs in library science plan to limit enrollment growth in the immediate future. More than half of the accredited schools responding to a January 1974 survey expect either to hold the line or to curtail enrollment in master's degree programs through the 1977-78 academic year.[93] About an equal number

[93] *Survey of Library and Information Science Education Programs 1971-73* (Bloomington, Ind., Indiana University Graduate Library School, Jan. 18, 1974, mimeographed).

of accredited schools anticipate moderate growth in their master's degree programs; very few anticipate substantial growth at the master's level. At the post-master's and doctoral levels, strong growth is foreseen by the accredited schools. Data are less complete for the nonaccredited programs. However, responses to the 1974 survey suggest that enrollment will rise much more rapidly in nonaccredited programs than in accredited ones over the next few years. This prospect has given rise to concern on the part of some educators, who fear that the growing proportion of graduates trained in non-accredited programs will have an adverse effect on the profession.

Library schools may choose to reexamine their curriculums from the viewpoint of the principal growth areas for librarians through 1985—school librarianship, media-audiovisual technology, library administration, library automation, and community outreach librarianship. Library schools which traditionally have placed a large number of their graduates in academic and research libraries, for example, may opt to place greater stress on preparation for other areas of librarianship, where future employment growth is expected to be somewhat stronger.

Library attendants and assistants. The various programs for training library technicians or library technical assistants also bear watching. Although employment of attendants and assistants is expected to grow more rapidly than that of librarians in the 1970-85 period, national projections of employment growth do not in themselves justify expansion of local programs.

The BLS survey revealed that relatively few persons employed as library technicians are graduates of the 1 to 2 year programs usually offered at the community college level. Instead, these programs appear to function chiefly as a source of supplementary training for library technicians and library clerks already employed in a nearby library. Compared to the number enrolled, relatively few library technology students complete the degree program—inasmuch as the degree almost never is a job prerequisite. Although many of the libraries surveyed by BLS regard library technology programs as "useful," virtually none regard them as "essential." Therefore, schools with library technology programs may want to examine closely the local employment situation for potential students and graduates before instituting or expanding programs.

Appendix A. Coverage, Definitions, Data Sources, and Projection Methods

Coverage and definitions

The subject of this bulletin is manpower in two major library occupations: Librarians, and library attendants and assistants. Not included in the scope of the study are persons who, though employed in libraries, work at jobs which are not specifically library-related. The professional group which is excluded is fairly small, and is made up of specialists in such areas as personnel and employee relations, budget and finance, public relations, systems analysis, and language or subject areas. Also excluded are two considerably larger groups of workers in nonprofessional jobs: Clerical workers, including secretaries, typists, and clerks; and maintenance staff, including guards, drivers, building engineers, custodians, and groundskeepers.

The distinction between "library-related" and "non-library related" occupations is not always clear cut. In many small libraries, librarians or their assistants handle maintenance, clerical, and/or administrative tasks in addition to their principal duties.

Also excluded from the scope of the study are persons trained in library science but not employed in libraries. This diverse group includes persons in a number of occupations closely involved with librarianship: Library educators (who, as educators, are classified with all other college and university teachers), library consultants, library and book trade writers and editors, library association staff members, and government officials and administrators.

The definition of "librarian" used in this report is generally consistent with the Census definition. It was adhered to as closely as possible in developing estimates of current and projected 1980 and 1985 employment. During the interview phase of the study, the definitions shown in appendix C were used to elicit information on the nature of the work performed by library personnel in libraries of different kinds and sizes. The BLS definition of "librarian" aimed to distinguish professional from nonprofessional personnel on the basis of duties performed, rather than on the basis of educational background. In this respect it differs from the approach adopted by the American Library Association in its 1970 statement on library education and manpower. The ALA approach establishes educational prerequisites for each of five levels of library occupations.

The definition of "library attendant and assistant" used in this report is the standard occupational classification used by the U.S. Bureau of the Census. It is a broad category comprised of nonprofessional library personnel with many different job titles. The census definition was used because of the absence of alternative data sources for nonprofessional library personnel. It had been hoped that employment data could be developed separately for several nonprofessional library occupations, but this was not feasible. All nonprofessional library workers accordingly are treated as a single category throughout the report. The definitions of technical assistant and clerk shown in appendix C were used during the interview phase of the study as part of the effort to distinguish library technical assistants (library technicians) from other library nonprofessionals. This effort was not successful. The plan to develop firm employment estimates for library technical assistants accordingly was abandoned, and only qualitative information on this occupation is presented in the report.

During the 1970 Census of Population, persons were counted as library attendants and assistants if they reported any of the following jobs:

Accessioner–U.S. Library of Congress
Assistant
  Librarian's
  Medical library
Attendant, not specified (if employed in a library)
Book shelver
Book sorter
Clerk, not specified (if employed in a library)
Computer tape librarian
Filing books
Film-library clerk
Helper
  Librarian's
  Not specified (if employed in a library)
Librarian, not specified (if employed in a department store or mail order establishment)
Library aide
Library clerk
Library monitor
Library page

Page
Shelving books
Stack attendant
Stacking books
Tape librarian

The standard census definition of library attendant and assistant was revised slightly for the 1970 Census of Population, with the result that 1960 and 1970 census data for this occupation (and for many other occupations and industries) are not comparable without an adjustment to compensate for the change in definition. The adjustment procedure is explained in U.S. Bureau of the Census, *1970 Occupational and Industry Classification Systems in terms of their 1960 Occupation and Industry Elements*, by John A. Priebe, Joan Heinkel, and Stanley Greene, Technical Paper No. 26, (Washington, D.C., 1972). For adjustment purposes, a sample of 1960 census returns was recoded according to the 1970 definitions of occupation and industry. Reclassification of the 1960 data on library attendants and assistants resulted in a 13 percent increase in this category—from an actual 1960 census figure of 32,872 to an adjusted 1960 census figure of 37,000. The adjustment was about equally divided between 2,100 persons previously classified as messengers and office boys, and 2,200 persons previously classified as clerical and kindred workers, not elsewhere classified.

Methods

Estimates of 1960 and 1970 employment. Historical and current data on employment in library occupations are available from a variety of sources, of which the most important are the Office of Education and the Bureau of the Census. Coverage is not complete however, and the various sources are not readily compatible because of conceptual differences and use of different reference periods. The estimates of 1960 and 1970 librarian employment found in this report represent an effort to use the most reliable data from several sources, and to reconcile differences between them. The most important considerations in selecting particular data sources were (1) the relative accuracy of various employment series, and (2) the availability of consistent historical trend series.

Estimates of total library employment in 1960 and 1970 were derived by aggregating separate estimates made for each of four types of libraries—school, public, academic, and special. The initial estimates were compared with decennial census data on the distribution of employed persons by occupation and industry, and with the BLS industry-occupational matrix. (The matrix is explained later in this appendix.) Adjustments were made as necessary to ensure consistency between totals and subtotals.

The BLS estimates (and most census data as well) pertain to full-time plus part-time employment. This is in contrast to the usual practice of the Office of Education, which reports employment data in terms of full-time equivalents (FTE)—that is, full-time personnel plus "full-time equivalent" of part-time personnel. As a rule, full-time plus part-time employment is higher than FTE employment. Fall 1969 data on academic librarians, for example, show a total of 17,695 FTE librarians, compared to an estimated total of 19,051 full-time plus part-time librarians (17,017 full-time plus 2,034 part-time). The procedures used by BLS to convert FTE to full-time plus part-time employment are described below.

Estimates of 1960 and 1970 school librarian employment are based on data from Office of Education surveys of public school personnel. For most years between 1960 and 1970, data are available on the number of public school librarians as reported in 1 of 2 surveys: The biennial survey of State school systems and the annual survey of local public school systems. For some years, data are available from both surveys. State school system data are available for 1961-70; local public school system data are available for Fall 1967-70. Each of these periodic surveys provides consistent time-series data on employment of public school staff members including librarians, expressed in full-time equivalents. (The local public school system survey also reports employment of audiovisual specialists and library aides). In addition, three surveys devoted exclusively to public school library resources and personnel were conducted in the 1960-70 period, and two of them provide benchmark data. Most important of all is a comprehensive 1960-61 survey which furnishes basic data on school library resources, services, and staff in all public school districts and additional detail for districts enrolling 150 pupils or more. This was followed in 1961-62 by a "postcard" survey which furnishes limited data for districts enrolling 150 pupils or more.

Data on the number of librarians in nonpublic schools are not available. (Two surveys of nonpublic schools were conducted by the Office of Education between 1960 and 1970, but they do not provide information on library staff.) Estimates of the number of nonpublic school librarians therefore were derived by applying the public school librarian-pupil ratio to nonpublic school enrollment figures.

Based on (1) actual survey results from the Office of Education's 1960-61 public school library survey and from its Fall 1970 local public school system survey, and

(2) estimated data for nonpublic schools, the following estimates were derived by BLS of the number of full-time equivalent school librarians:

	1960	1970
Total	28,000	48,000
Public School ...	25,000	43,000
Nonpublic School	3,000	5,000

These estimates of FTE employment then were converted to estimates of full-time and part-time employment by applying the following formula:

$$FT + PT = 1.10\ FTE$$

This formula represents the relationship between FTE and full-time and part-time employment in 368 school libraries in the State of Wisconsin, according to unpublished data from the Office of Education's 1972-73 Library General Information Survey. The weakness of this method lies in the reliance on data from one State to represent all 50 States. It is, nonetheless, the best information currently available on employment of school librarians in full-time, part-time, and FTE units.

Estimates of 1960 and 1970 public librarian employment are based on data from the Bureau of the Census' annual sample survey of State and local governments and from its quinquennial Census of Governments. The annual survey provides data for every year since 1961 on expenditures and staff of "local libraries"—that is, libraries operated by local governments.[1] The definition of "local libraries" used by the Census Bureau in its government surveys comes reasonably close to the generally-accepted definition of "public libraries."[2] It should be noted that the Census Bureau figures on local libraries do not include libraries operated by State governments (State library agencies, State law libraries, State institutional libraries, and so forth). The quinquennial survey provides comparable data on local libraries for 1967, 1962, and 1957. Data for 1960 are BLS estimates, obtained by interpolating annual figures for 1958-60.

Employment data for local libraries which appear in these annual and quinquennial reports pertain to total library staff; data are not published separately for librarians, library attendants and assistants, maintenance or other personnel. The employment data are presented in full-time and part-time terms as well as in full-time equivalents. This makes it unnecessary to apply an FTE conversion factor to the survey data on public library staff.

Data from a number of public library surveys, among them Office of Education surveys conducted in 1962, 1965, and 1968, suggest that librarians comprised about one-third of total public library staff in 1960 and 1970. These estimates are supported by 1970 census results and the BLS industry-occupational matrix, both of which provide information on staffing patterns in public libraries.

The 1962 survey conducted by the Office of Education covers all public libraries in the United States; subsequent surveys have covered only the "large" public libraries which serve 25,000 persons or more. Staffing patterns vary between the "large" and "small" libraries, with large libraries reporting fewer librarians, relative to total staff, than small libraries. To some extent, this reflects actual differences in staffing patterns. The larger the library, the greater the opportunity for specialization in job assignments, and for extensive use of nonprofessionals. Some of the difference in staffing patterns is only apparent, however, for there exists in practice some lack of agreement as to the dividing line between "professional" and "nonprofessional" library occupations. This is especially a problem in very small libraries, where the entire staff may be regarded as "librarians."

In those public libraries serving populations of 25,000 or more, the percent of all staff members (including maintenance) who are librarians was, on average, as follows:

1962	30.5
1965	28.1
1968	27.4

However, when small libraries as well as large ones were surveyed, the percent of librarians on the staff was appreciably higher—35.4 percent in 1962. For 1960 and 1970, BLS estimated this figure to be 33 percent. The 1980 and 1985 projections assume a substantial drop, to 23 percent in 1985.

Estimates of 1960 and 1970 academic librarian employment are based on data from the Office of Education's annual college and university library survey. Results of this annual survey of the entire higher education universe are regarded as highly reliable, and provide particularly valuable trend data. Data on resources, expenditures, and staff in each of the Nation's 2,500 or so academic libraries are published annually, in a report of institutional data. An analytic report published every other year presents aggregate data for the entire academic library universe. Analytic reports used in preparing this study are those for 1959-60,

[1] Results of the annual survey are published every year. See, for example, U.S. Bureau of the Census, *Public Employment in 1970*, Series GE70-No. 1 (Washington, D.C., 1971).

[2] See, for example, the definition agreed to by members of the ALA Statistics Coordinating Project which appears on pp. 30-31 of *Library Statistics: A Handbook of Concepts, Definitions, and Terminology* (Chicago, American Library Association, 1966).

1961-62, 1963-64; and Fall 1968, 1969, and 1971. Data for 1960 and 1970 were interpolated from actual figures for earlier and later years.

Adjustments were made in the survey data. First, survey results for 1959-60, 1961-62, and 1963-64 were adjusted to ensure consistency over time in two employment series: Professionals other than librarians, and nonprofessionals. Until the 1967-68 survey, no distinction had been made between these two occupational categories, and as a result, professionals other than librarians were incorrectly classed as nonprofessionals.[3] It should be noted that the adjustment procedure does not alter the survey data for librarians.

The second adjustment was necessary in order to convert FTE employment data to full-time plus part-time employment. The following formulas, based on actual data from the Office of Education's 1969 college and university library survey, were used to convert FTE to full-time plus part-time figures:

$$(1)\quad FT + PT_{L} = .962\,FTE_{L} + 3\,(FTE_{L} - .962\,FTE_{L})$$

$$(2)\quad FT + PT_{POL} = .875\,FTE_{POL} + 3\,(FTE_{POL} - .875\,FTE_{POL})$$

$$(3)\quad FT + PT_{N} = .887\,FTE_{N} + 3\,(FTE_{N} - .887\,FTE_{N})$$

Where

FT + PT	=	full-time and part-time employment
FTE	=	full-time equivalent employment (all full-time plus full-time equivalent of part-time)
L	=	librarians
POL	=	professionals other than librarians
N	=	nonprofessionals

Estimates of 1960 and 1970 special librarian employment were developed wholly within the framework of the BLS industry-occupational matrix. The procedure by which information on the level and composition of demand for the economy's goods and services is translated, first, into requirements for workers by industry and then into requirements for workers by occupation is explained in greater detail later in this appendix.

The BLS industry-occupational matrix was used to derive employment estimates for special librarians because other sources of statistical data on special librarians are too fragmentary to form the basis for an industrywide estimate. Few attempts have ever been made to survey all special libraries in the United States, chiefly because of the difficulties involved in developing a comprehensive and up-to-date universe. Foremost among those concerned with a listing of U.S. special libraries is Anthony T. Kruzas, whose publications include several editions of *Directory of Special Libraries and Information Centers* (Detroit, Gale Research Company, 1968) and also *Encyclopedia of Information Systems and Sources* (Ann Arbor, Edwards Brothers, 1971).

The very diversity of special libraries militates against a universe survey by the libraries themselves; music libraries, for example, have little in common with scientific and engineering libraries. The existence of a number of professional associations uniting special librarians in various fields—medicine, law, theology, theater, and so forth—attests to the essential plurality of the industry. It is not surprising, therefore, that the most important surveys in the special library field are association-sponsored and confined to a single speciality. Notable examples are the 1969 health sciences library survey and various investigations which accompanied it; several recent surveys of law libraries; and the 1972 survey of some 2,600 Federal libraries.

The 1969 survey of medical and health sciences libraries was conducted under the auspices of the American Medical Association, the American Hospital Association, and the Medical Library Association, with financial support from the National Library of Medicine. A total of 3,155 health sciences libraries were identified in the initial phase of the survey, and these are listed in Frank Schick and Susan Crawford, *Directory of Health Sciences Libraries, 1969* (Chicago, American Medical Association, 1971). These libraries employed a total

[3] *Library Statistics of Colleges and Universities, Analytic Report, Fall 1968* (Washington, D.C., 1970), p. 13.

full-time and part-time staff of 14,938 persons in 1969, of whom 5,861 were in hospital libraries and 9,077 were in medical school libraries, medical society libraries, and other nonhospital health sciences libraries. Of the total staff, 6,052 persons were categorized as "professional" and 8,886 as "nonprofessional." Additional information on this survey, its methods and results, may be found in (1) Susan Crawford, "Health Sciences Libraries in the United States: Survey and Statistical Profile," *The Bowker Annual of Library and Book Trade Information*, New York, R.R. Bowker Company, 1972, (2) Susan Crawford, ed., "Health Sciences Libraries in the United States: A Statistical Profile," *Bulletin of the Medical Library Association*, Vol. 60, No. 2, Supplement, April 1972, and (3) David Kronick, Alan M. Rees, and Leslie-beth Rothenberg, "An Investigation of the Educational Needs of Health Sciences Library Manpower," Parts I, II, III, IV, and V, *Bulletin of the Medical Library Association*, Vol. 58, No. 1, January 1970, Vol. 58, No. 4, October 1970, Vol. 59, No. 1, January 1971, and Vol. 59, No. 3, July 1971.

Law libraries have not undergone a single, exhaustive survey comparable to the 1969 health sciences library survey. Instead, efforts are underway to conduct continuing surveys of a few major indicators of law library operations. Surveys of law school libraries were started in 1969 under the auspices of the American Association of Law Libraries and the American Bar Association and have been conducted annually since that time; results are published every year in the May issue of *Law Library Journal*. In 1970, for example, some 146 law school libraries (of a total of more than 800 law libraries of all types–law school, local bar, law firm, government, and other) reported 503 professionals, 596 full-time nonprofessionals, and 1,270 part-time nonprofessionals. The mean staff size in 145 schools was 3.4 professionals, 4.1 full-time nonprofessionals, and 5.9 part-time nonprofessionals. The first of a continuing series of surveys of local bar libraries was conducted in 1971, and surveys of law firm libraries and government law libraries are planned. Two surveys of law librarians' salaries have been conducted since 1970 by Professor Carlyle Frarey of Columbia University, the results having appeared in the *Law Library Journal*.

The 1972 Federal library survey represents the first attempt to conduct an exhaustive survey of all the 2,600 or so libraries which serve the Federal Government. Sponsored by the Federal Library Committee and funded by the Office of Education, the fiscal year 1972 survey aimed at comprehensive coverage, including some Federal libraries which are not special libraries: School libraries for dependents overseas, for example, and the quasi-public and quasi-academic libraries run by the Department of Defense. Respondents to the survey employed 11,143 full-time staff members, of whom 29 percent were librarians. One of every 3 Federal librarians worked in a National library–the Library of Congress, the National Agricultural Library, or the National Library of Medicine.

Estimates of 1960 and 1970 library attendant and assistant employment are based on actual and adjusted Census data. The 1960 estimate of 37,000 full-time and part-time library attendants and assistants is adjusted upward from the actual 1960 figure of nearly 33,000. Both the need for this adjustment and the procedure used in making it are described in an earlier part of this appendix.

No estimates are presented in this report of the 1960 distribution of attendants and assistants by type of library. This reflects the paucity of data upon which to base an estimate. Census industry classifications used in 1960 were broader than those used in 1970, and 1960 data for three crucial components of the educational services industry–elementary and secondary schools, colleges and universities, and (public) libraries–were not presented separately. Instead, these three industries, together with a miscellany of other educational institutions, were presented as a single category. The 1970 introduction of a considerably more detailed classification system (the 1970 census presents data for 227 industries and 441 occupations, compared to 150 industries and 297 occupations in the 1960 census) made it possible for the first time, to develop employment estimates for attendant and assistants by type of library. The match is not an exact one, but is believed to be reasonably close. 1970 census industry codes and the type of library to which each corresponds are as follows:

857 (K) Elementary and secondary schools ..... School libraries
858 Colleges and universities ..... Academic libraries
859 Libraries ..... Public libraries
Residual group comprised of the other 224 industries ..... Special libraries

For more detail on the census classification systems, see U.S. Bureau of the Census, 1970 Census of Population, *Classified Index of Industries and Occupations* (Washington, D.C., 1971).

Data from the 1970 census on the distribution of employed library attendants and assistants in the three relevant industries (elementary and secondary schools, colleges and universities, and libraries) plus the residual category (all other industries, summed) were used for the BLS estimates for 1970 employment of attendants and assistants by type of library.

Estimates of the demographic characteristics of librarians and library attendants and assistants are based on

1970 census data. Census sex ratios were applied to BLS estimates of employment of librarians by type of library in a two-step process. First, using census data, percents were calculated for the distribution of librarians by sex, age group, and race in each of three industries: Elementary and secondary schools (857-K), libraries (859), and colleges and universities (858), and for all other industries, summed. (The residual group was considered to approximate the special libraries industry.) These census ratios were then applied to the independently-derived BLS estimates for school librarians, public librarians, academic librarians, and special librarians, respectively. For library attendants and assistants, actual census data on sex, age, and race were used.

Projections of 1980 and 1985 requirements

The method for projecting library manpower requirements to 1980 and 1985 used in this study is consistent with techniques used by the Bureau of Labor Statistics in other studies of future occupational manpower needs. The procedure is summarized briefly in the section that follows. Additional detail on the variety of techniques used by the Bureau to develop estimates and projections of requirements for workers by industry and occupation appears in chapters 5, 7, and 31 of BLS Bulletin 1711, *BLS Handbook of Methods.* The sequence of projection procedures is also described in appendix A of BLS Bulletin 1737, *Tomorrow's Manpower Needs.* Volume IV, *The National Industry-Occupational Matrix and Other Manpower Data.*

Framework for developing projections. The Bureau of Labor Statistics has prepared national industry and occupational manpower projections since the 1950's. The latest set of projections revises previously published projections to 1980 and extends the estimates to 1985.[4] The projections are based on an extensive and interrelated program of studies conducted by the Bureau on economic growth, technological change, and industrial and occupational trends. The 1980 and 1985 projections encompass a number of integrated components. Specifically, they cover labor force; hours of work; output per man-hour; gross national product (GNP) and the composition of demand; output and productivity by detailed industry group; and industrial and occupational employment requirements. The projections are interrelated: The growth of GNP, a foundation of the projections, is conditioned upon assumptions concerning labor supply, productivity changes, and hours of work. The rate and direction of changes in the major demand components of GNP, in turn, yield changing requirements for labor by industry and occupation.

By 1985, according to the BLS projections, the U.S. labor force will reach 108 million; the number of persons employed, 103 million (both totals include military); and gross national product, about $1.9 trillion (1972 dollars). These estimates reflect a number of implicit as well as explicit assumptions, and in particular a key assumption that basic economic factors will not veer from long-term paths. Despite the assumption of continuation of underlying forces, however, demographic changes already underway presage changes in the rate of economic growth and the supply of trained manpower. In two significant departures from past trends, the latest BLS projections suggest (1) a sharp slowdown in overall economic growth and (2) a potential oversupply of college graduates, both to begin in the late 1970's. The expected dampening in the rate of economic growth is almost entirely demographic, caused by the slowdown in births which will begin to show up in the smaller number of new entrants into the labor force toward the end of the 1970's. The shift in the supply-demand situation for college graduates similarly reflects the combining of demographic factors. It should be emphasized that the projected dampening in the rate of growth is not due to an assumption regarding failure to achieve high levels of employment. On the contrary, the projections assume 96 percent of the civilian labor force employed in both 1980 and 1985.

Following are the general assumptions concerning the economy in 1980 and 1985 which underlie the Bureau's projections:

> Fiscal, monetary, and manpower training and educational programs will achieve a satisfactory balance between relatively low unemployment and relative price stability, permitting achievement of the long-term economic growth rate. The projections assume a 4-percent unemployment rate (of the civilian labor force) and a 3-percent annual increase in the implicit price deflator for gross national product.
>
> The institutional framework of the American economy will not change radically.
>
> Economic, social, technological, and scientific trends will continue, including values placed on work, education, income, and leisure.
>
> Efforts to solve major domestic problems such as those of air and water pollution, solid waste disposal, urban congestion, inadequate industrial safety, and energy shortages may consume more productive resources but will not have more than a marginal effect on long-term growth.

Projection methods. Development of the Bureau's projections begins with the labor force. The labor force

[4] The revised 1980 and new 1985 projections are summarized in *The U.S. Economy in 1985* (BLS Bulletin 1809, 1974).

projection, based on the Bureau of the Census projections of population (Series E), is developed through separate projections of labor force participation for the various age, sex, and racial groups in the population. The detailed participation rates are then applied to the projected levels in each population group.

The economic growth projections, developed in consultation with the Interagency Committee on Economic Growth, cover gross national product and its distribution among the four major components (or demand categories) of GNP: Consumer expenditures, domestic investment, net foreign demand, and government expenditures—Federal, State, and local.

Industry and occupational employment projections—the end product of labor force and economic growth projections—are arrived at by using a combination of techniques. First, major demand components of GNP are converted into industry employment requirements. Total industry employment is obtained by calculations involving projected changes in demand, interindustry (input-output) relationships, and output and productivity. The employment projections are initially developed for about 135 industries or industry groups, covering the entire economy. The results of the input-output employment projections are then checked and reconciled for consistency with an independent set of industry employment projections derived by regression techniques.

Finally, projected industry employment is converted into occupational needs. This step in the procedure requires the projection of detailed occupational patterns on an industry-by-industry basis. Each industry uses a unique combination of occupational skills, together with other factors of production, in its efforts to achieve least cost for its output. Occupational patterns may be markedly different from one industry to another. Over fairly short periods, the occupational structure of many industries is stable. Occupational patterns, however, change with the advance of technology and changes in the supply of workers. The Bureau accordingly has developed a technique for projecting occupational patterns which takes into account such information as is available on the effect of changing technology and shifts in labor supply.

Occupational patterns are projected by means of the BLS industry-occupational matrix—a matrix, or table, which divides total U.S. employment into occupations cross-classified by industries. At present, matrices are available for 1970, 1980, and 1985. The amount of industry and occupational detail has increased with successive matrices. In the latest matrix, industry-occupational data are set up in a table which shows 400 specific occupations plus groups of occupations cross-classified with 200 industries.

To put it another way, the industry-occupational matrix is a set of ratios showing the occupational pattern of employment for each of 200 industries. Every industry in the matrix is represented by a column which adds to 100 percent, and shows the percent distribution of employment by detailed occupation in that industry. Thus there are 200 separate ratios for librarians, indicating the proportion of total employment which librarians comprise in each of the 200 matrix industries. Similarly, there are 200 ratios for library attendants and assistants. These ratios are developed for a base year primarily on the basis of decennial census data on employment by occupation and industry. The census data are refined and adjusted by BLS staff to take into account unallocated workers, seasonal employment factors, BLS industry employment estimates, and occupational estimates derived from in-depth studies and other sources considered preferable to Census data.

Projecting the ratios to a target year is a major step in the entire projection sequence. It is done by extrapolating past trends and, where possible, by analyzing the factors that influence occupational structure. Changes in the ratios are indicative of changing occupational patterns within an industry, a development which usually is associated with industry growth, technological changes, changes in business organization, shifts in manpower supply, job redesign, or any of a number of other factors.

In the next step, industry target year estimates developed in an earlier stage of the projection sequence are combined with projected occupational patterns. To derive future employment requirements for a given occupation, each of the 200 ratios is applied to the appropriate target year industry employment estimate. Total national requirements for the occupation then are obtained by summing across all industries.

Finally, these preliminary occupational projections are analyzed and adjusted on the basis of in-depth studies conducted in the course of the Bureau's occupational outlook program. These studies, for selected industries and occupations, provide an analysis of the factors affecting demand for workers in a given occupation, and an assessment of the way these factors are likely to operate in the future. Technological change is the most often discussed factor affecting occupational employment, but occupational changes are influenced by a number of other factors as well. Their importance varies from one occupation to another. Occupational employment is influenced, for example, by growth in population and changes in age distribution; by government policy—which may, for example, generate massive expenditures for research and development, or for construction; by institutional factors, such as union-management relationships and practices; and by the

relative supply of workers in other occupations, as, for example, the substitution effect resulting from shortages of professionals and their replacement by paraprofessionals.

The growth of employment in library occupations is affected by a unique complex of factors—population growth; enrollment trends; changing patterns of library usage and new concepts of library service; government policy concerning Federal support for education in general and for libraries in particular; the advent of the computer as an aid to library operations; innovations in the area of interlibrary cooperation and accompanying shifts in organizational patterns and work procedures; and changes in staffing patterns stimulated in part by past manpower shortages.

All of these demand factors were taken into account in developing the final estimates of 1980 and 1985 requirements for librarians and library attendants and assistants. That is, preliminary matrix ratios were evaluated in the light of specific assumptions about the various demand factors which influence employment in library occupations. Particular consideration was given to the effect of population trends upon employment in public libraries and the effect of enrollment trends upon employment in school libraries and in academic libraries. No single factor was identified as a critical determinant of employment in special libraries.

Comment on assumptions. BLS projections are not predictions. They are based on past trends and on an assessment of the likely future behavior of a number of economic, demographic, and social variables. To the extent that the assumptions upon which the BLS model is based are not realized, the employment levels and the industrial and occupational employment patterns projected for 1980 and 1985 may not be attained.

This caveat applies not only to the assumptions listed on page 57, but to several specific assumptions which were used in the supply-demand analysis for library personnel. On the supply side, to the extent that degrees awarded in library science between 1970 and 1985 depart from the level currently projected by the Office of Education—there is a strong possibility that they will be lower—the number of new graduates seeking jobs as librarians is likely to be lower than that projected in this report. On the demand side, the BLS analysis of future requirements for library personnel relies in part on projections of population and enrollment. If, as seems increasingly likely, 1985 population and enrollment levels are lower than those assumed at the time this analysis was carried out, fewer librarians may be required.

To better explain the necessity for the caveat about the demographic and enrollment projections upon which the analysis is partly based, consider recent trends in fertility rates. This factor not only underlies population projections and school enrollment projections but also is an important factor in female labor force participation. In the latest population projections developed by the Census Bureau,[5] fertility assumptions have been revised downward to reflect the sharp decline in fertility which has been evidenced since 1970 as well as the sharp decline in the birth expectations of young wives during the past 5 years. The Census Bureau in its prior projections developed four population series assuming a range of four different fertility levels. Considering additional data now available, the "high" series of these earlier projections appears to imply an unrealistically high fertility rate. Thus, it has been dropped. In addition, a new low series has been developed. The basis for this lowest of four series is an arbitrary fertility level. There is no precedent in American demographic history on which to assign such a low level. However, its development reflects the unprecedented demographic developments: an all-time low fertility rate; a continuously declining birth rate; and an overall trend to smaller families. Over the past decade, the fertility decline has caused a dramatic shift from a three-child to a two-child family norm.

One implication of a continuing downward trend in fertility is that the number of children entering school may not, in fact, be as large as had been expected. The Bureau of Labor Statistics recently adopted a lower fertility assumption for use in developing its labor force projections, and new enrollment projections developed by the U.S. Office of Education will reflect a similar change. In preparing this report, estimates developed by the Office of Education and published in the 1972 edition of *Projections of Educational Statistics* were used, together with unpublished projections through 1985 prepared for the Bureau of Labor Statistics in January 1973. Preliminary projections developed just prior to publication of this report indicate the likelihood of a downward revision of earlier figures. Enrollment estimates developed on the basis of the fertility assumption implicit in the earlier projections thus may prove to be too high. This possibility is particularly significant at the elementary school level, since 1985's 12-year-olds and all those younger will be born after 1972. The upturn in enrollments anticipated for the late 1970's is not, in fact, ensured. Should declines in fertility continue to new lows, the demand projections for school librarians may prove to be overstated. Since a trend has not been firmly established, however, it would be

[5] *Current Population Reports*, Series P-25, No. 493, "Projections of the Population of the United States, by Age and Sex: 1972 to 2020," (Bureau of the Census, 1972).

premature to assume such a decline. That the decline is an outgrowth of new attitudes and economic conditions and may be expected to continue remains highly speculative.

Enrollment projections figure into the supply demand picture for librarians not only at the elementary school level but also in terms of higher education enrollments. While projections of enrollments at this level are not subject to the uncertainties of projecting population since the college-age population to 1985 already has been born, assumptions must be made concerning, first, what constitutes the potential college-age population and, secondly, what proportion of that population will be enrolled in institutions of higher education. The Nation's 18- to 21-year-olds in the past have been considered the "conventional" college-age group; and the assumed enrollment levels have been determined in line with trends set during a period when the proportion of persons graduating from high school and the percent going on to college were increasing rapidly. No consideration was given to the possibility of declines in enrollment rates below then current levels. The most recent available data, however, indicate that a change in the assumptions may be necessary in order to develop realistic projections. School enrollment rates for persons 18 to 24 years old just out of high school may be expected to decline somewhat since college enrollment apparently has been influenced by such factors as changing attitudes toward education, financial support for college students, the growth of community colleges, and changes in admission practices. In addition, there is some evidence that the draft laws which formerly allowed deferments for men enrolled in college created a situation in which enrollment rates may have been unusually high during the late 1960's; consequently, enrollment projections may have been overstated. Such overstatement may be counterbalanced, however, by changing enrollment patterns. The school enrollment rates for persons over 25 years old have increased slightly between 1963 and 1972. Also, a recent survey revealed that 1.5 million adults age 35 years and over were enrolled in or attending school, and somewhat over one-half of them were enrolled in college.

Enrollment projections at the college and university level influence the outlook analysis for librarians both in terms of the projected demand for librarians to serve the needs of future college and university students and also in terms of the future supply of new college graduates eligible for entry into the occupation. The Office of Education's projections of enrollments and degrees awarded are being revised downward to reflect the recent enrollment changes. The Carnegie Commission on Higher Education has revised its enrollment projections to show smaller increases than had originally been projected. The National Education Association has surveyed the Nation's largest teacher preparation institutions and found a potential enrollment decline which is attributed to student response to employment prospects in teaching. The Bureau of Labor Statistics, too, notes that the imbalance in the supply and demand for college graduates may not be as large as projected to the extent that college enrollments slow down as students become aware of the less favorable job market.

Female labor force participation patterns represents another factor which could have a significant impact on the potential supply situation in librarianship. As was noted in the discussion of Other Sources of Supply, information is lacking on patterns of occupational entry and delayed entry, but it is known that in an occupation which is largely female these supply components become increasingly important in the outlook analysis.

The influx of women workers into the labor force over the past decade has been dramatic. While the proportion of women workers in the labor force is expected to continue to rise, the assumed halt in the decline in women's fertility rates and the fact that the increase in the women's population over the projection period will be concentrated in the age group with a lower labor force participation rate will result in a much more moderate rate of increase. Should the decline in fertility rates persist, however, the proportion of women of childbearing age who have preschool age children to care for would decline and potentially more women could enter the work force. Similarly, socioeconomic or legislative changes could alter participation rates. For example, daycare provisions might facilitate entry of mothers into the labor force. While factors related to labor force participation of women affect the librarian occupation, to the extent that more men enter this traditionally female dominated occupation, the impact of these factors may be moderated.

Appendix B. Sample Design

The survey phase of the Library Manpower Study consisted of personal visits to about 100 libraries and library systems to elicit information on staffing patterns, job functions, training needs, and current manpower problems in the library field as well as to identify the factors that have the greatest bearing on library manpower requirements. Persons interviewed included head librarians, library administrators, personnel officers, or others who were able to provide the information.

This appendix presents a brief description of the procedures used in selecting the sample for the survey phase of this study.

Industrial coverage

The survey included establishments primarily engaged in the following activities as defined in the 1967 edition of the Standard Industrial Classification Manual:

SIC 8211 – Elementary and Secondary Schools
SIC 8221 – Colleges, Universities and Professional Schools
SIC 8222 – Junior Colleges and Technical Institutes
SIC 8231 – Libraries and Information Centers

The survey also included libraries in industrial, commercial, and governmental establishments and institutions, such as hospitals, which engage in a wide variety of activities.

Geographic coverage

The survey provided data on a nationwide basis.

Selection of respondents

The Nation's libraries are situated in about 52,000 institutions or institutional systems. The following is a breakdown by type:

Public school systems	18,000
Nonpublic schools	17,000
Public libraries	7,000
Academic libraries	2,000
Special libraries	11,000

In developing the sample design, the universe was stratified first by type of library–public school, nonpublic school, public, academic, and special.[1] These five types of libraries were substratified by size where possible. Public school systems, nonpublic schools, and academic institutions were each stratified on the basis of enrollment size. Public libraries were stratified by size of population served. Lack of information prohibited substratification of special libraries. Information was available from the Office of Education on the distribution of employed librarians by type of library. Additional data, primarily from the Office of Education, provided estimates of the variance of employment in each of these types of libraries. On the basis of these data, a sample of 100 respondents was selected. The final distribution was as follows:

Public school systems	26
Nonpublic schools	4
Public libraries	35
Academic libraries	23
Special libraries	12

Minimum establishment size

The survey included establishments employing at least one person *assigned to library duties* on a full-time or part-time basis. Establishments with no paid personnel specifically assigned to library duties were considered out-of-scope, and were replaced by alternates.

Occupational coverage

The survey covered all staff, excluding maintenance, employed in a library or assigned to library duties.

[1] The BLS Office of Data Collection and Survey Operations had, on magnetic tape, the U.S. Office of Education universes for public school systems, nonpublic schools, and institutions of higher education. The sample of public libraries was selected from the universe compiled by the U.S. Office of Education for its 1962 survey of public libraries. The sample of special libraries was selected on the basis of information presented in the 1970-71 edition of the *American Library Directory* (New York, R.R. Bowker Co., 1970).

Janitors, building interior cleaners, laborers, groundskeepers, guards, and other maintenance personnel did not fall within the scope of the study. Appendix C presents the list of staff position descriptions, developed by BLS, for each of the four library occupations with which the study was specifically concerned:

Librarian
Specialist
Technical Assistant
Clerk

Library personnel in scope of the study who did not fit any of the four BLS library occupation descriptions were counted and classed separately as "other."

Reference period

Survey data related to the fiscal year ending closest to June 30, 1972, or to calendar year 1972.

Collection method

Data were collected by personal visit. Prior to the interview, collection materials had been sent to all respondents. These materials consisted of:

Library Manpower Study Interview Guide BLS 3022. (See appendix D.)
Library Manpower Study Job List No. 1. (See appendix C.)

Appendix C. Staff Position Descriptions

Job descriptions for library personnel vary not only by type of library but in many instances by library within each employment setting. An analysis of occupational staffing patterns based on a survey of limited size necessitated development of a list of job descriptions that would apply broadly to all types of libraries. The following is a list of job descriptions developed by the BLS for use in conjunction with the Library Manpower Study Interview Guide. They are based, in part, on definitions approved by the American Library Association. Employers were asked to classify their staff according to the most appropriate occupational category.

Job List No. 1. — Library Manpower Study — Staff Position Description

Librarians

Librarians review and analyze the needs of the library's users and formulate policies and procedures for staff implementation in meeting those needs. Their responsibilities may include: development, coordination, and administration of the library program; staff selection, supervision, evaluation, and training; delegation of duties, responsibilities, and authority; evaluation, selection, and classification of library materials and equipment; and instruction and assistance in the use of the library's resources. The librarian's expertise may lie in a particular area of librarianship such as bibliography, reference, or administration, or the librarian may combine librarianship with a subject or language specialty.

Specialists

Specialists include professional personnel who apply their knowledge of the theories, principles, and techniques of some subject specialty other than librarianship, such as languages, law, and computer technology, to work within a library. (Include audio-visual specialists and media specialists.)

Technical assistants

Technical assistants apply library-related skills to one or more of the functional areas of library operations for the purpose of supporting and assisting the professional staff. Technical assistants may be responsible for such assignments as implementing circulation policies and procedures, preparing and maintaining library materials and equipment, and performing the various technical aspects of acquisitions processing or cataloging. Technical assistants may render reference services of a directional or factfinding nature. They may work in a supervisory capacity to direct the work of clerks or other technical assistants.

(Established rules and guidelines form the framework within which a technical assistant operates.)

Clerks

Clerks commonly perform work of a general office nature, such as typing, filing, and operating business machines. Their jobs may entail routine library-related tasks such as bookmarking and pocketing, shelving and the physical preparation of library books and materials, filing and maintaining circulation records, and typing and filing cards, forms, and reports.

Other library personnel

Includes all library personnel not classified above. However, maintenance and custodial employees as well as volunteers and student assistants are *not* to be included.

Appendix D. Questionnaire Guide

The following interview guide was prepared as an aid to Bureau staff members in conducting the interviews. Its use assured the same questions being asked each employer. In addition, by following the format suggested in the guide, the written reports of each interview tended to follow a standard format that aided in the analysis of the interviews.

The Guide was pretested with four employers (one of each type of library–school, academic, public, and special) in the Washington, D.C. metropolitan area.

BLS-3022

U.S. DEPARTMENT OF LABOR
Bureau of Labor Statistics
Office of Manpower Structure and Trends
Washington, D.C. 20212

Office of Management and
Budget No. 44-S 72037
Approval expires 12/31/73

Your report will be held in strict confidence.

Interview Guide for Library Manpower Study

This interview was conducted at:

Organization or institution	
Address	
Official's name and title	
Telephone No.	Date
Interviewer's name	

A. Introduction

This interview is being conducted by the BLS in conjunction with its study of library manpower. The study is being made for the U.S. Office of Education. It is designed to develop projections of employment requirements for library manpower by employment setting (academic, public, school, and special libraries) and by occupational level (librarians, technical assistants, and clerks). It will provide information on job functions and educational requirements--and how each is changing. The study also will contribute valuable information to the BLS occupational outlook program. The Bureau of Labor Statistics will hold all information furnished by the respondent in strict confidence.

PLEASE COMPLETE QUESTION B BEFORE THE INTERVIEW

B. Site Information (Reference period: End of fiscal year closest to June 30, 1972 or end of calendar year 1972)

1. Type of library:

- ☐ School library. Answer item a. on this page. Then skip to page 4 and answer question 2.
- ☐ Academic library. Answer item b. on page 3 and question 2 on page 4.
- ☐ Public library. Answer item c. on page 4 and question 2 on page 4.
- ☐ Special library. Answer item d. on page 4 and question 2 on page 4.

a. School library

(1) Institutional control and organizational level (Check one)

- ☐ Public school system
- ☐ Nonpublic school

If this library is in a nonpublic school, please specify whether the school is:

- ☐ Elementary
- ☐ Secondary
- ☐ Combined elementary-secondary

(2) Enrollment category (Check one)

- ☐ 25,000 pupils or more
- ☐ 10,000–24,999 pupils
- ☐ 5,000–9,999 pupils
- ☐ 2,500–4,999 pupils
- ☐ 300–2,999 pupils
- ☐ Less than 300 pupils

(3) Number of classroom teachers (Specify)

_____

b. Academic library

(1) Institutional control (Check one)

- ☐ Public
- ☐ Private

(2) Level of education (Check one)

- ☐ 4–year with graduate students
- ☐ 4–year without graduate students
- ☐ 2–year

(3) Enrollment category (Total "head count" of full-time and part-time, degree credit and nondegree credit students. Check one)

- ☐ 10,000 students or more
- ☐ 5,000–9,999 students
- ☐ 1,000–4,999 students
- ☐ 500–999 students
- ☐ Less than 500 students

(4) Instructional staff (Total full-time and part-time. Specify)

_____

(5) Library units covered (Check one)

- ☐ This report furnishes consolidated data for all library units on the campus
- ☐ This report furnishes data for one of several libraries on the campus (such as general university library, law school library, medical school library). Names of library units *not* covered by this report:

_____

_____

_____

_____

c. Public library

(1) Population category of area served (Check one)

- ☐ 500,000 or more
- ☐ 100,000–499,999
- ☐ 50,000–99,999
- ☐ 35,000–49,999
- ☐ 25,000–34,999
- ☐ Less than 25,000

d. Special library

(1) Subject speciality (Check one)

- ☐ Medical/health sciences
- ☐ Law
- ☐ Physical sciences, engineering
- ☐ Business
- ☐ Other (specify)_____

(2) Industry or nature of parent organization (Specify)

_____

_____

_____

2. Total operating expenditures (budget). *This question should be answered by each library.*

_____

PLEASE COMPLETE QUESTION C1 BEFORE THE INTERVIEW

C. Staffing (Reference period: End of fiscal year closest to June 30, 1972 or end of calendar year 1972)

1. a. How many persons are employed in this library? _____

   b. How many were employed in 1967? _____

Do *not* count maintenance or custodial personnel, laborers, volunteers, or student assistants in any of the totals or subtotals. All other staff members should be classified in the most appropriate occupational category: Librarian, Specialist, Technical Assistant, Clerk, Other (specify). Descriptions for each occupational category appear on Job List No. 1; personnel who fit none of the BLS library occupation descriptions should be classed as "Other." Data should be presented, if possible, for full-time and part-time personnel and full-time equivalent (FTE) positions. Data should refer to the end of the fiscal year closest to June 30, 1972, and June 30, 1967, or the end of calendar years 1972 and 1967. Please indicate the source of the 1967 data by checking the appropriate box:

☐ Personnel records ☐ Estimate

Staff position	Number of Employees in 1972				Number of Employees in 1967			
	Total	Full-time	Part-time	FTE	Total	Full-time	Part-time	FTE
Total								
Librarians								
Specialists								
Technical assistants								
Clerks								
Other (specify)								

PLEASE COMPLETE QUESTION C2a BEFORE THE INTERVIEW

2. a. How many volunteers work in the library? (Specify number of volunteers and total manhours of assistance.)

b. How are volunteers utilized?

c. How does the number of volunteers in 1972 compare with that 5 years ago? (More? Less? About the same?)

d. Discuss any changes over the past 5 years in the manner and extent to which the library utilizes volunteers.

e. What factors have contributed to these changes?

(SCHOOL AND ACADEMIC LIBRARIES ONLY: PLEASE COMPLETE QUESTION C3a BEFORE THE INTERVIEW)

3. a. How many paid student assistants work in your library?

b. How are paid student assistants utilized?

c. How does the number of paid student assistants in 1972 compare with that 5 years ago? (More? Less? About the same?)

d. Discuss any changes over the past 5 years in the manner and extent to which the library utilizes paid student assistants.

e. What factors have contributed to these changes?

PLEASE COMPLETE QUESTION C4 BEFORE THE INTERVIEW

4. Estimate the percentage distribution of library personnel in each of the 4 staff positions: By sex and race.

Sex and race	Percent Distribution of--			
	Librarians	Specialists	Technical assistants	Clerks
Male				
Female				
White				
Negro and other races				

5. What changes have taken place over the last 5 years in the distribution of library staff by sex, race, and age?

6. What factors influenced these changes?

   a. Internal factors--e.g., recruitment, personnel policy, salary level.

   b. External factors--e.g., supply of qualified applicants, economic conditions.

7. Minority groups--

   a. Does your library have a recruitment program aimed at increasing the number of minority group members on your staff?

   b. If yes:
      (1) Discuss recruitment methods.

      (2) What staff positions are you recruiting for?

      (3) Discuss difficulties encountered in minority group recruiting program.

D. Job Functions

1. Discuss the changes, if any, which have taken place during the past 5 years in the duties performed by:

   a. Librarians

   b. Specialists

   c. Technical assistants

   d. Clerks

2. Describe shift of duties from one staff position to another over the past 5 years.

3. Describe any changes in duties expected to take place over the next 10 years.

4. Do you anticipate any shift of duties from one staff position to another over the next 10 years?

5. Describe any new or emerging occupations in terms of the duties performed.

6. How is technology expected to affect job functions and staffing patterns over the next 10 years?

PLEASE COMPLETE QUESTION E1 BEFORE THE INTERVIEW

E. Education and Training (Reference period: End of fiscal year closer to June 30, 1972 or end of calendar year 1972)

1. What is the educational level attained by your present staff? (Enter number of employees by staff position and highest level of education attained. Do *not* include maintenance or custodial personnel, laborers; personnel classified as "Other" in question C1; student assistants or volunteers.)

Staff position	Total	Less than high school graduate	High school graduate	Some college --no earned degree	Associate degree		Bachelor's degree		Graduate degree(s)		
					Area of Concentration		Area of Concentration		Area(s) of Concentration		
					Library science	Other	Library science	Other	Library science	Other	Double degree library and other curriculum
Librarian ...											
Specialist ...											
Technical assistant ..											
Clerk											

2. Indicate the basic minimum requirements at the entry level for persons in each of the following staff positions:

Staff Position	Education	Experience	Certification
Librarian			
Specialist			
Technical assistant.....			NOT APPLICABLE
Clerk			NOT APPLICABLE

3. Beyond the minimal entry requirements, what qualifications do you seek? E.g., additional education, experience, personal characteristics, etc.

4. Regarding the educational background of your staff, are there any areas:

   a. In which they lack necessary preparation for the work they do?

      If so, which areas?

   b. In which their preparation overqualifies them for the work they do?

      If so, which areas?

5. How well do library education and training programs prepare graduates for work in your library? Are there any areas in which the library feels current training is inadequate or irrelevant? If so, what areas?

6. How have educational requirements for library manpower changed during the past 5 years? (Specify by staff position.)

7. Looking ahead, do you expect the library personnel you hire over the next 10 years to have about the same educational qualifications as your present staff? If not, what changes in educational preparation of your staff do you anticipate? (Specify by staff position.)

8. Describe any new or emerging occupations in terms of qualifications (educational and otherwise) necessary.

9. Describe the pattern of advancement (career ladder) within each staff position; from one staff position to the next. (Consider formal education; on-the-job training; experience. Specify length of time, if established.)

10. Identify and discuss your current manpower problems.

PLEASE COMPLETE QUESTIONS F1 AND F2 BEFORE THE INTERVIEW

F. Supply (Reference period: End of fiscal year closest to June 30, 1972 or end of calendar year 1972)

1. Was the number of staff positions reduced during the past year?
   By how many?

Staff positions	Number
Librarians	
Specialists	
Technical assistants	
Clerks	

2. a. How many positions were filled during the past year?

Staff positions	Number
Librarians	
Specialists	
Technical assistants	
Clerks	

b. Indicate the sources of personnel placed during the past year. Please enter each new hire (or promotion or transfer) only once; if more than one source applies, mark the one which appears first on the list.

Source	Librarians	Specialists	Technical assistants	Clerks
New graduates --				
Library programs				
Non-library programs				
Promotions within the library				
Transfers within this employment setting				
Transfers from other libraries --				
School				
Academic				
Public				
Special				
Transfers from non-library occupations				
Re-entrants to the labor force				
Other (specify)				

3. Discuss how this hiring pattern differs from that 5 years ago.

4. In the last 5 years, how have your actual hiring experiences related to the qualifications you were seeking?

5. What measures have been taken in the last 5 years to alleviate manpower problems? (E.g., specific recruiting campaigns, supplementary training programs, job redesign.)

6. In what occupations do you currently experience difficulty obtaining qualified personnel?

What are the reasons?

- ☐ General shortage of trained personnel
- ☐ Salary structure
- ☐ Recruitment problems (e.g., location)
- ☐ Constraints imposed by civil service or personnel department regulations
- ☐ Other (specify) _____

7. What do you do if you cannot get a qualified individual for a position?

- ☐ Hire persons with less than the desired qualifications and train on-the-job
- ☐ Help existing staff to obtain additional formal education
- ☐ Leave the position vacant until a qualified person becomes available
- ☐ Other (specify) _____

8. In what positions do you currently experience no difficulty in obtaining qualified personnel?

9. How has the overall library manpower supply situation changed over the past 5 years?

G. Requirements

1. Indicate the major factors that have contributed to employment growth over the past 10 years, e.g., expansion of facilities, increased demand for library services, changes in technology, job redesign, budget changes, implementation of State, American Library Association, or other standards.

2. In your opinion, what factors will affect your library manpower requirements in the next 10 years?

3. Have you developed projections of library employment needs for the future? If so, what are your anticipated needs? On what criteria are these needs based?

PLEASE COMPLETE QUESTIONS H1 AND H2 BEFORE THE INTERVIEW

H. Effect of Federal Funding (Reference period: End of fiscal year closest to June 30, 1972 or end of calendar year 1972)

1. a. What proportion of your total library budget is Federally financed?

b. Did Federal funds account for a larger or smaller proportion of your budget 5 years ago?

2. a. What are the program sources of Federal funding?

b. Have the sources of Federal financing changed over the past 5 years? If so, how?

3. What impact, if any, has the availability of Federal funds had on your manpower situation?

I. Interviewer's Comments

Appendix E. Selected Bibliography

Library statistics and directories

Academic Library Statistics 1970-71, A compilation of statistics from the 78 university library members of the Association of Research Libraries, Washington, D.C., ARL, n.d.

American Association of Law Libraries, *Directory of Law Libraries*, 1972 edition, Chicago, AALL, 1972. Issued biennially.

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The 1970 and 1980 industry-occupation matrix tables and other manpower data are presented in Vol. IV. The 1985 industry-occupation matrix tables are scheduled for publication in 1975.

Appendix F. Detailed Tables

F-1. Distribution of staff in college and university libraries, by staff position and control and type of institution, fall 1971

F-2. Employment of librarians by sex and State, 1960 and 1970

F-3. Employment of library attendants and assistants by sex and State, 1960 and 1970

F-4. Employment of librarians and library attendants and assistants, by State, 1970 and 1960-70 increase

F-5. Library staff in colleges and universities, by State, fall 1971

F-6. Employment of librarians in public elementary and secondary schools, by State and selected academic years

Table F-1. Distribution of staff in college and university libraries, by staff position and control and type of institution, fall 1971

Control and type of institution	Total staff	Librarians	Other professional staff[2]	Clerical and other staff
Total, public and private	48,211	18,295	3,054	26,862
Universities	23,681	8,138	1,253	14,290
4-year institutions with graduate students	13,913	5,633	913	7,367
4-year institutions without graduate students	4,816	2,122	493	2,201
2-year institutions	5,800	2,402	395	3,003
Total, public	30,121	11,403	1,716	17,002
Universities	15,549	5,411	835	9,302
4-year institutions with graduate students	8,376	3,458	456	4,462
4-year institutions without graduate students	1,025	449	101	475
2-year institutions	5,170	2,085	323	2,762
Total,[1] private	18,090	6,892	1,338	9,860
Universities	8,132	2,727	418	4,988
4-year institutions with graduate students	5,537	2,175	457	2,905
4-year institutions without graduate students	3,791	1,673	392	1,726
2-year institutions	630	317	72	241

[1] Excludes contributed service staff.

[2] Includes persons who, though not librarians, are in positions normally requiring at least a bachelor's degree.

NOTE: The employment data in this table are expressed in "full-time equivalents" (full-time personnel plus full-time equivalent of part-time personnel) and therefore are not comparable with the BLS estimates shown in table 1, which include both full-time and part-time personnel.

SOURCE: *Library Statistics of Colleges and Universities, Fall 1971 Analytic Report (Part C)* (Office of Education, 1973, OE-74-11417).

Table F-2. Employment of librarians by sex and State, 1960 and 1970

State	1970			1960		
	Total	Men	Women	Total	Men	Women
United States	123,549	22,286	101,263	75,672	11,023	64,649
Alabama	1,569	192	1,377	1,060	99	961
Alaska	173	24	149	68	4	64
Arizona	971	186	785	478	44	434
Arkansas	1,040	106	934	569	22	547
California	10,631	2,382	8,249	7,697	1,344	6,353
Colorado	1,463	259	1,204	864	130	734
Connecticut	1,944	368	1,576	1,469	253	1,216
Delaware	355	33	322	185	11	174
District of Columbia	1,499	460	1,039	1,361	388	973
Florida	3,339	423	2,916	1,566	175	1,391
Georgia	2,684	332	2,352	1,321	123	1,198
Hawaii	668	112	556	354	58	296
Idaho	492	62	430	255	42	213
Illinois	6,909	1,341	5,568	4,198	674	3,524
Indiana	2,835	541	2,294	1,856	264	1,592
Iowa	2,066	376	1,690	1,280	138	1,142
Kansas	1,707	207	1,500	1,179	161	1,018
Kentucky	1,660	164	1,496	903	58	845
Louisiana	1,792	264	1,528	1,226	166	1,060
Maine	630	114	516	412	35	377
Maryland	3,260	656	2,604	1,589	319	1,270
Massachusetts	4,518	1,000	3,518	3,335	586	2,749
Michigan	4,635	890	3,745	2,766	461	2,305
Minnesota	2,509	499	2,010	1,718	202	1,516
Mississippi	1,117	167	950	590	22	568
Missouri	2,421	419	2,002	1,559	211	1,348
Montana	554	79	475	256	30	226
Nebraska	913	101	812	695	70	625
Nevada	272	66	206	90	15	75
New Hampshire	493	127	366	377	57	320
New Jersey	4,337	728	3,609	2,513	354	2,159
New Mexico	693	126	567	351	50	301
New York	12,169	2,967	9,202	8,053	1,570	6,483
North Carolina	3,223	369	2,854	1,582	167	1,415
North Dakota	384	50	334	243	36	207
Ohio	6,196	996	5,230	3,855	479	3,376
Oklahoma	1,377	293	1,084	930	139	791
Oregon	1,401	211	1,190	896	122	774
Pennsylvania	6,832	1,355	5,477	3,682	491	3,191
Rhode Island	522	93	429	342	52	290
South Carolina	1,627	139	1,488	802	34	768
South Dakota	499	62	437	304	29	275
Tennessee	2,050	283	1,767	1,270	139	1,131
Texas	6,021	810	5,211	3,109	388	2,721
Utah	1,033	200	833	506	84	422
Vermont	430	93	337	281	43	238
Virginia	3,449	537	2,912	1,865	240	1,625
Washington	2,503	429	2,074	1,667	192	1,475
West Virginia	665	104	561	438	53	385
Wisconsin	2,740	485	2,255	1,522	187	1,335
Wyoming	279	36	243	185	12	173

NOTE: 1960 and 1970 data are not strictly comparable since the 1970 occupational classification system excludes certain persons who were counted as librarians in 1960.

SOURCE: U.S. Bureau of the Census, Census of Population: 1970, *Characteristics of the Population*, Vol. 1, Parts 1-50.

Table F-3. Employment of library attendants and assistants by sex and State, 1960 and 1970

State	1970			1960		
	Total	Men	Women	Total	Men	Women
United States	126,207	26,207	99,337	37,059	9,003	28,056
Alabama	1,349	314	1,035	336	111	225
Alaska	131	12	119	25	1	24
Arizona	1,006	241	765	229	24	205
Arkansas	724	156	568	201	37	164
California	15,835	3,953	11,882	4,158	916	3,242
Colorado	1,602	336	1,266	276	88	188
Connecticut	2,522	514	2,008	928	200	728
Delaware	350	37	313	123	19	104
District of Columbia	1,197	505	692	581	316	265
Florida	3,108	732	2,376	468	116	352
Georgia	2,045	474	1,571	486	121	365
Hawaii	581	96	485	146	38	108
Idaho	410	94	316	119	32	87
Illinois	6,091	1,308	4,783	2,283	577	1,706
Indiana	3,183	611	2,572	859	218	641
Iowa	2,075	295	1,780	529	95	434
Kansas	1,608	330	1,278	436	74	362
Kentucky	1,528	329	1,199	411	124	287
Louisiana	1,609	428	1,181	587	151	436
Maine	528	72	456	184	30	154
Maryland	2,919	793	2,126	741	201	540
Massachusetts	5,809	1,251	4,558	1,952	491	1,461
Michigan	5,426	953	4,473	1,573	392	1,181
Minnesota	2,906	413	2,493	917	144	773
Mississippi	938	193	745	263	57	206
Missouri	3,039	675	2,364	858	272	586
Montana	489	59	430	104	24	80
Nebraska	919	144	775	295	63	232
Nevada	136	31	105	52	14	38
New Hampshire	624	142	482	186	44	142
New Jersey	3,863	740	3,123	1,263	290	973
New Mexico	648	76	552	121	31	90
New York	13,060	3,259	9,801	3,959	1,147	2,812
North Carolina	2,643	585	2,058	739	207	532
North Dakota	434	60	374	52	15	37
Ohio	6,282	1,072	5,210	2,357	441	1,916
Oklahoma	1,209	240	969	384	103	281
Oregon	1,933	233	1,700	503	56	447
Pennsylvania	5,741	1,194	4,547	1,712	354	1,358
Rhode Island	810	203	607	220	76	144
South Carolina	922	115	807	291	57	234
South Dakota	494	46	448	110	14	96
Tennessee	1,677	423	1,254	632	172	460
Texas	4,894	1,189	3,705	1,471	386	1,085
Utah	700	155	545	226	46	180
Vermont	438	67	371	108	18	90
Virginia	2,992	708	2,284	793	240	553
Washington	2,712	354	2,358	602	96	506
West Virginia	508	98	410	275	72	203
Wisconsin	3,311	482	2,829	877	180	697
Wyoming	249	60	189	58	12	46

NOTE: 1960 and 1970 census data are not strictly comparable because (1) the 1970 occupational classification system counted as library attendants and assistants certain occupations which had not been in this category in 1960, and (2) the lower age limit for the civilian labor force was changed from 14 to 16 years.

SOURCE: U.S. Bureau of the Census, Census of Population: 1970, *Characteristics of the Population*, Vol. 1, Parts 1-50.

Table F-4. Employment of librarians and library attendants and assistants by State, 1970 and 1960-70 increase

State	Librarians		Library attendants and assistants	
	1970	1960-70 increase	1970	1960-70 increase
United States	123,549	47,877	126,207	89,148
Alabama	1,569	509	1,349	1,013
Alaska	173	105	131	106
Arizona	971	493	1,006	777
Arkansas	1,040	471	724	523
California	10,631	2,934	15,835	11,677
Colorado	1,463	599	1,602	1,326
Connecticut	1,944	475	2,522	1,594
Delaware	355	170	350	227
District of Columbia	1,499	138	1,197	616
Florida	3,339	1,773	3,108	2,640
Georgia	2,684	1,363	2,045	1,559
Hawaii	668	314	581	435
Idaho	492	237	410	291
Illinois	6,909	2,711	6,091	3,808
Indiana	2,835	979	3,183	2,324
Iowa	2,066	786	2,075	1,546
Kansas	1,707	528	1,608	1,172
Kentucky	1,660	757	1,528	1,117
Louisiana	1,792	566	1,609	1,022
Maine	630	218	528	344
Maryland	3,260	1,671	2,919	2,178
Massachusetts	4,518	1,183	5,809	3,857
Michigan	4,635	1,869	5,426	3,853
Minnesota	2,509	791	2,906	1,989
Mississippi	1,117	527	938	675
Missouri	2,421	862	3,039	2,181
Montana	554	298	489	385
Nebraska	913	218	919	624
Nevada	272	182	136	84
New Hampshire	493	116	624	438
New Jersey	4,337	1,824	3,863	2,600
New Mexico	693	342	648	527
New York	12,169	4,116	13,060	9,101
North Carolina	3,223	1,641	2,643	1,904
North Dakota	384	141	434	382
Ohio	6,196	2,341	6,282	3,925
Oklahoma	1,377	447	1,209	825
Oregon	1,401	505	1,933	1,430
Pennsylvania	6,832	3,150	5,741	4,029
Rhode Island	522	180	810	590
South Carolina	1,627	825	922	631
South Dakota	499	195	494	384
Tennessee	2,050	780	1,677	1,045
Texas	6,021	2,912	4,894	3,423
Utah	1,033	527	700	474
Vermont	430	149	438	330
Virginia	3,449	1,584	2,992	2,199
Washington	2,503	836	2,712	2,110
West Virginia	665	227	508	233
Wisconsin	2,740	1,218	3,311	2,434
Wyoming	279	94	249	191

NOTE: 1960 and 1970 census data are not strictly comparable. See Notes, appendix tables F2 and F3.

SOURCE: U.S. Bureau of the Census, Census of Population: 1970, *Characteristics of the Population*, Vol. 1, Parts 1-50, and Census of Population: 1960.

Table F-5. Library staff in colleges and universities, by State, fall 1971

State	Professional staff[1]		Nonprofessional staff	
	Number	Percent	Number	Percent
United States	21,183	100.0	26,523	100.0
Alabama	267	1.3	284	1.1
Alaska	25	.1	33	.1
Arizona	183	.9	285	1.1
Arkansas	116	.6	117	.4
California	2,023	9.5	3,168	11.9
Colorado	236	1.1	364	1.4
Connecticut	504	2.4	525	2.0
Delaware	40	.2	70	.3
District of Columbia	249	1.2	211	.8
Florida	546	2.6	721	2.7
Georgia	437	2.1	462	1.7
Hawaii	99	.5	115	.4
Idaho	69	.3	114	.4
Illinois	1,124	5.3	1,349	5.1
Indiana	513	2.4	622	2.4
Iowa	301	1.4	344	1.3
Kansas	278	1.3	246	.9
Kentucky	317	1.5	353	1.3
Louisiana	379	1.8	288	1.1
Maine	103	.5	88	.3
Maryland	392	1.8	560	2.1
Massachusetts	1,062	5.0	1,371	5.2
Michigan	761	3.6	990	3.7
Minnesota	408	1.9	381	1.4
Mississippi	228	1.1	141	.5
Missouri	439	2.1	543	2.1
Montana	79	.4	55	.2
Nebraska	164	.8	184	.7
Nevada	31	.1	65	.2
New Hampshire	126	.6	182	.7
New Jersey	545	2.6	765	2.9
New Mexico	100	.5	119	.4
New York	2,217	10.5	3,100	11.7
North Carolina	688	3.2	680	2.6
North Dakota	68	.3	42	.2
Ohio	848	4.0	1,173	4.4
Oklahoma	199	.9	228	.9
Oregon	247	1.2	338	1.3
Pennsylvania	1,248	5.9	1,571	5.9
Rhode Island	126	.6	173	.7
South Carolina	211	1.0	249	.9
South Dakota	64	.3	64	.2
Tennessee	407	1.9	457	1.7
Texas	993	4.7	1,318	5.0
Utah	164	.8	192	.7
Vermont	76	.4	127	.5
Virginia	435	2.0	549	2.1
Washington	405	1.9	529	2.0
West Virginia	137	.6	147	.6
Wisconsin	474	2.2	411	1.6
Wyoming	32	.1	60	.2

[1] Librarians and other professional staff members. The fall 1971 total includes approximately 18,000 librarians and 3,000 other professionals.

NOTE: Employment in full-time equivalents.

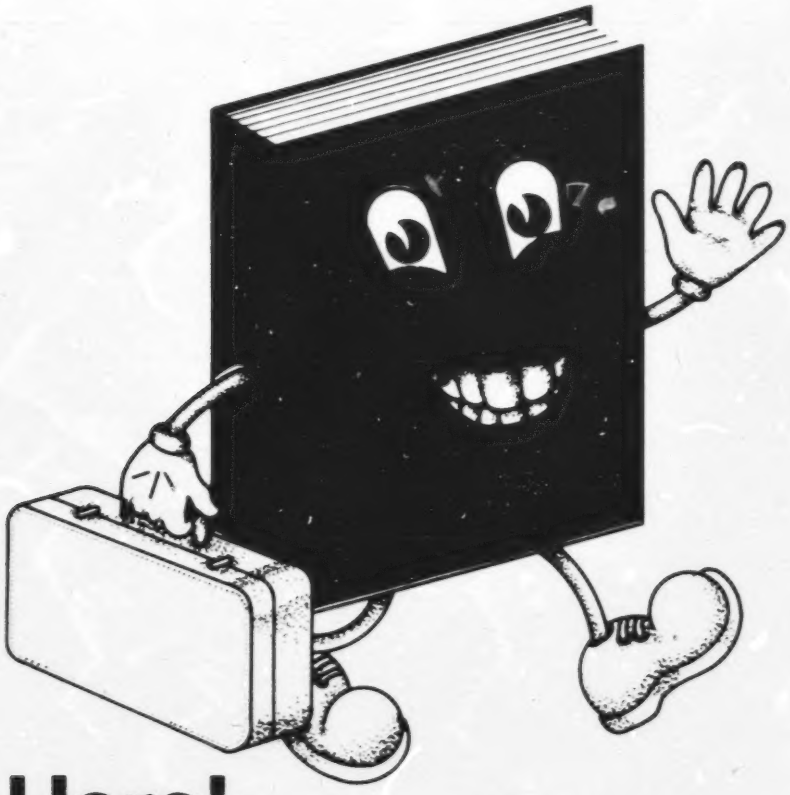
SOURCE: *Library Statistics of Colleges and Universities, 1971, Analytic Report, (Part C)* (Office of Education, 1973, OE-74-11417).

Table F-6. Employment of librarians in public elementary and secondary schools, by State and selected academic years

State	Academic year				
	1961-62	1963-64	1965-66	1967-68	1969-70
United States	19,603	23,769	28,965	33,838	39,790
Alabama	—	—	—	—	—
Alaska	20	29	52	62	61
Arizona	249	258	377	408	(1)
Arkansas	211	239	285	323	360
California	1,075	1,210	1,425	1,697	1,599
Colorado	229	264	332	373	454
Connecticut	175	232	271	297	388
Delaware	76	82	95	120	133
District of Columbia	24	23	89	133	156
Florida	1,071	1,289	1,587	1,844	2,057
Georgia	507	650	1,111	1,485	1,701
Hawaii	119	137	171	203	213
Idaho	158	154	151	192	187
Illinois	563	1,093	1,284	1,540	1,728
Indiana	488	411	598	822	887
Iowa	224	286	520	575	892
Kansas	414	452	511	681	771
Kentucky	490	583	632	912	1,057
Louisiana	723	739	853	1,138	1,187
Maine	—	65	69	128	147
Maryland	(1)	535	650	839	934
Massachusetts	342	355	328	586	714
Michigan	1,137	1,269	768	1,172	1,862
Minnesota	564	715	862	1,015	1,131
Mississippi	313	337	389	528	604
Missouri	(1)	(1)	546	609	845
Montana	89	91	106	159	(1)
Nebraska	112	169	176	300	411
Nevada	39	43	83	123	116
New Hampshire	14	29	41	63	98
New Jersey	524	653	808	(1)	(1)
New Mexico	162	158	181	240	240
New York	2,293	2,710	2,705	3,438	2,538
North Carolina	963	1,253	1,621	(1)	1,776
North Dakota	135	32	73	120	173
Ohio	819	933	1,089	1,412	1,687
Oklahoma	103	215	203	293	352
Oregon	297	340	424	524	641
Pennsylvania	864	1,063	1,281	1,633	1,859
Rhode Island	48	49	107	143	198
South Carolina	370	443	615	1,206	1,356
South Dakota	—	92	124	138	153
Tennessee	503	573	738	966	1,086
Texas	1,214	1,392	1,670	1,653	1,795
Utah	196	235	282	322	333
Vermont	16	26	43	112	124
Virginia	(1)	(1)	859	981	1,413
Washington	670	719	563	803	891
West Virginia	93	185	207	218	239
Wisconsin	743	894	933	1,229	1,176
Wyoming	65	66	77	80	67

[1] Data for librarians not reported separately.

SOURCE: U.S. Office of Education, *Statistics of State School Systems*, various issues.



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